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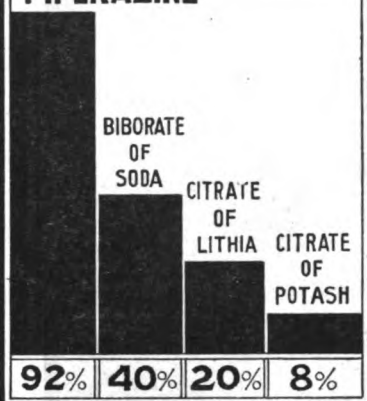
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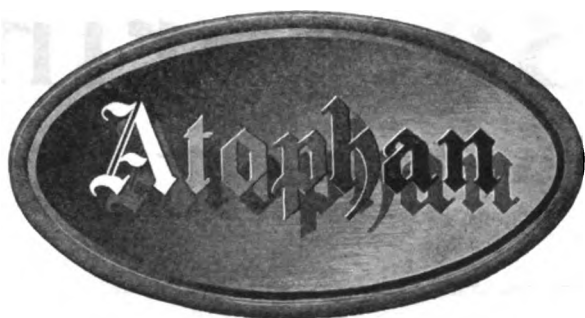
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A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A.M., M.D., Editor.

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## Original Articles.

## VISCERAL PURPURA AND ANGIONEUROTIC EDEMA.\*

BY CHARLES F. WITHERINGTON, M.D.,  
Visiting Physician, Boston City Hospital.

BEFORE coming to the main body of this paper, allow me, by way of preface, to recall to your minds four skin affections which are more or less commonly met with and which, as will be seen later, have a close relationship one with another.

First, erythema. This occurs in two forms, so-called erythema multiforme and erythema nodosum. The appearance of these eruptions is decidedly different, the former being upon the skin and the latter underneath the skin in the form of hard, dark red, painful nodules. The former is seen occasionally after vaccination, after the injection of antitoxin and other sera. Both, however, are distinctly due to circulating toxins in the blood which may be from within or without the body. Erythema nodosum is very frequently associated with joint pains and with endocarditis.

Second, urticaria. This is the commonest of the group. It occurs in the form of raised patches, often white on the summit, with a surrounding red base, causes intense itching, and the spots of efflorescence are individually of short duration, but successive areas of the skin are usually invaded for some days. This is also due to circulating toxins usually developed within the body, most commonly originating from the alimentary canal, associated in susceptible individuals with some special article of diet. It also follows ptomaine poisoning, certain drugs, intestinal parasites, and is, like the foregoing eruption, erythema, frequently met with after the injections of antitoxin. It is sometimes seen in pregnancy, lactation, glycosuria, jaundice and Bright's disease.

Third, *angioneurotic edema*, Quincke's disease. Osler denominated this phenomenon "urticaria writ large." It is much less common than urticaria, affects limited areas of the body from 2 to 10 cm. in diameter, which suddenly swell to a considerable size, sometimes causing alarm and deformity. The spots of edema, however, quickly subside and frequently reappear in other places. It is especially frequent about the lips and other portions of the face, also the scrotum. It may affect the visible mucous membranes and, what is specially significant with regard to internal medicine, undoubtedly, the deeper mucous membranes. It is painless. It may involve tendon sheaths and cause effusion into joints, in which case it may simulate gout. If it involves the glottis it may cause death by asphyxia, so-called acute edema of the glottis. If it affects the soft palate, it produces a pseudo-croup. Quincke believed that it was the cause of what he calls serous meningitis, which disease, however, is not acknowledged by all neurologists. It has been

held, without sufficient evidence, to be responsible for attacks of epilepsy. There is no doubt that it is a cause of bronchial asthma. It is possibly the cause of so-called periodic vomiting and, as we shall see later, may produce severe gastric and intestinal crises.

Fourth, purpura. This is a name given somewhat loosely to what is not in itself a disease, but a result, perhaps, of several causal factors. It consists of spots of dark purplish color, usually small in size, which may become, in severe cases, confluent over large areas. It may cause a slight raising of the surface of the skin. It is generally divided into two groups, the first of which comprises a number of forms which we shall hardly more than mention in this paper. First, symptomatic or secondary purpura accompanying severe infections, common in cerebrospinal meningitis, constituting the so-called black form of measles, smallpox, scarlet fever and other eruptive diseases, in which it is an evidence of a profound degree of sepsis. It may also be caused by typhoid fever (Hamburger: Johns Hopkins Hospital Reports), gonorrheal endocarditis (Fairbrother), pneumonia (Edel), influenza (Pepper), gall-bladder suppuration (Stengel), grave jaundice, tuberculosis (Gassner and Finkelstein), pregnancy (Scharringen), puerperal fever, toxins from decayed meat (Burcharat), cryptogenetic staphylococcus infection (Stengel), coli communis (Adami), streptococcus (Ewing).

There are also a large group of blood diseases accompanied by purpura, among them leukemia (Edsall, Poisot and Vincent, Labbe and Béaujard). In some of these coagulation of the blood has been delayed (Gerhardt and Larrabee); in others, shortened (Ewing).

The second or essential group of purpuras is usually divided into four classes:

First, simple purpura, affecting the skin.

Second, purpura rheumatica, or Schoenlein's disease, involving the skin and joints.

Third, Henoch's purpura, involving skin, joints and gastro-intestinal mucous membrane.

Fourth, purpura hemorrhagica, or morbus maculosus Werlhoffii, which is painless and characterized by hemorrhage from all mucous membranes. A sub-variety of this form is the so-called purpura fulminans.

These forms are all expressive of toxemia which may be cryptogenetic or from outside the body. Immerman, in Ziemssen, some years ago, expressed the belief that these four were all identical, differing from one another only in degree and intensity of constitutional symptoms. The multiplicity of sites involved is apt to be proportionate to the gravity of the case, but the invasion of certain localities in the interior of the body, for example, peritoneum, meninges, kidneys, etc., produce each a characteristic group of local symptoms superimposed upon the general systemic disturbance.

Is there evidence that these four groups of skin eruption have any relation one to the other? If so, it is helpful, as in other cases in medicine, to bring together apparently diverse morbid

\* Read by invitation before the Plymouth District Medical Society, Jan. 18, 1912.

manifestations and show their interrelation and common dependence upon similar antecedents. In this case the antecedents are probably varied, but that all these manifestations are of close kinship is illustrated by such a case as the following, reported by Gordon.<sup>1</sup>

The patient, a lad of fourteen, of previous good health but of nervous and sensitive type, was taken suddenly ill with pains apparently of rheumatism in many joints and coincidently with a purpuric eruption of extensive distribution. This was quickly followed by an attack of abdominal pain with a hemorrhage from the bowels amounting to a pint of blood within twenty-four hours. So far the case had appeared at first as a simple rheumatic purpura and then as one of Henoch's purpura.

But then followed a bewildering succession of alternate joint swellings, purpuric eruptions, gastrointestinal pains with vomiting, local edemas of angioneurotic type, typical urticaria, erythema simple and exudative desquamations. The clinical picture sometimes changed in an hour, and the sequence of symptoms ran on for weeks. The rheumatic pains involved the back and leg muscles so that the boy could not move. So for weeks succeeded and accompanied each other colic, purpura, urticaria, edema, erythema. The urinary secretion was diminished.

After four weeks an endocardial infection manifested itself with loud systolic murmur. From this time the rheumatic and colic attacks ceased, but the purpuric outbreaks recurred every night for weeks. It was interesting to note that an erythematous blush could be produced at any time on chest or abdomen by simply letting the patient know that the attention was being directed to that portion. Crops of purpura continued in diminishing degree for five months and finally the patient developed chorea.

J. T. Bowen<sup>2</sup> calls attention to acute circumscribed edema with hemorrhage in various places.

Mumford<sup>3</sup> gives a case of acute angioneurotic edema in a man of twenty, bleeder of marked type, no family history of hemophilia, who, four years ago, had a severe attack of purpura and nearly a fatal epistaxis. On entering the hospital, with a temperature of 103, there was a tumor which had grown in twenty-four hours to the size of an orange, with hemorrhagic spots in the center of the right cheek. There was a discharge of serum and blood from the mouth which took down the edema.

Holmes<sup>4</sup> gives an account of a patient with angioneurotic edema and purpura, the attack lasting three weeks and the purpura outlasting the edema by five days. It is noticeable in the above cases that in proportion as one variety or locality of manifestations subsides, another shows itself, so that they are successive rather than coincident.

The appearance of joint swellings and pains in purpura is not indicative of the purpura being a complication of acute rheumatism, but the explanation is equally reasonable that both the purpura and the joint swelling are co-ordinate results of a common toxic factor. This is in line with the more recent views of the infectious character of so-called rheumatism, and there is reason to believe that there are several "rheuma-

tisms," the common one, of infectious arthritis, or so-called articular rheumatism; another, gonorrheal arthritis; another, pneumococcal arthritis; and it is significant that arthritic symptoms are quite as common in erythema nodosum as they are in purpura. The tendency of all to the endocardium is well known. The suspected connection of this group of diseases with one visceral symptom, viz., asthma, is illustrated by the following case which I saw last autumn.

A young Jewish boy, aged fourteen, of good physique and athletic habits, but of a neurotic inheritance, who is rather a promiscuous eater, has been subjected to attacks of urticaria. Immediately following one of these, he had a sharp attack of bronchial asthma, which recurred in less degree two or three times, in alternation with further attacks of cutaneous urticaria, and with the permanent relief of the latter symptom the asthma has disappeared.

A case of apparent involvement of the meninges, due to a similar cause, was reported by Osler, with recurrent attacks of active delirium. Several seizures of aphasia and hemiplegia recurred in alternation with cutaneous manifestations of the erythema group, which lasted for thirteen or fourteen years.

Our attention will, however, necessarily be confined for the remainder of this paper to forms of so-called Henoch's purpura, with abdominal distribution of the lesions.

This was first called attention to by Henoch, in his "Lectures on Diseases of Children," vol. ii, page 373, in which he narrated five cases, all in young people (for this disease is one to which the young are especially prone), in which cutaneous eruptions and joint swellings were followed by colic, vomiting, intestinal hemorrhage, pain, moderate fever, without involvement of the heart. From this publication the name of Henoch's purpura has come to be applied to this symptom-complex.

Osler<sup>5</sup> summarized some twenty-nine cases. In twenty-five of these cases, abdominal symptoms were present; in eight of them the skin lesions were accompanied by colic only and in fifteen there were in addition, gastric attacks, nausea and vomiting. In eight bleeding occurred. Renal complications were present in fourteen cases. Arthritis was present in seventeen cases. The author says: "The relation of the rheumatic poison to the arthritis and the other lesions is clear enough in some cases, but we cannot say that the arthritis is a hallmark by which we can always recognize the rheumatic poison. A great many of the cases of arthritic purpura or the peliosis (purpura rheumatica) have, I believe, nothing to do with the poison of rheumatism. On the other hand, erythema, with or without purpura and arthritis, may be in children, as are endocarditis, tonsillitis and subcutaneous fibroid nodules, manifestations of the rheumatic poison, links in the rheumatic chain."

In the twenty-nine cases the skin lesions were: Purpura in 5; purpura urticans in 7 (purpura with wheals); angioneurotic edema, 5, with or without erythematous lesions; erythematous lesions in



14 (in 2 alone and in the rest purpura or purpura urticaria). In one family acute circumscribed edema had occurred in five generations and gastro-intestinal crises formed a special feature of the attacks.

During the last year the following two cases came under my own observation.

One, H. W., farmer's boy, aged seventeen, entered the hospital March 9. For three weeks pains in the muscles of the right leg, which lasted three or four days, and have not since returned. Soon after, pains in region of stomach, not influenced by food. Slight nausea and vomiting for first two or three days, none since. No blood. No fever, chills nor nose bleed. In bed most of the time. No cough. On day of entrance, for first time, noticed few streaks of blood in the stools, twice. Bowels regular. Temperature, 99½; pulse, 96; respiration, 30. Presystolic thrill at apex of heart; heart enlarged to the left; good action; systolic murmur all over precordia transmitted to axilla and a suggestive presystolic murmur. Abdomen not distended; tympanitic; tenderness about the umbilicus; no spasm or rigidity here or over the appendix. Upper abdomen somewhat rigid. Not tender nor spastic. On the inner side of the right knee and right foot, several purpuric spots. White count, 38,100; following day, 51,000. March 12, pain in epigastrium without vomiting. Marked abdominal distention. Three days later, still considerable pain in epigastrium with distention. Tenderness in the region of the umbilicus. Stools positive for blood by guaiac test. Purpuric rash now over the abdomen and increased the following day over abdomen, knees and feet. Three days later still severe abdominal pain, also pain in shoulders. Purpura remains the same. Temperature rising to 100 in the evening, normal in the morning. On one of these days surgical counsel advised operation which, however, was postponed. On the 23d, another marked increase of purpura in knees and elbows, with some pain; no marked tenderness or distention. He was fairly comfortable during the day, but pains worse at night. On the 25th, purpura profuse everywhere. Pains in joints and also in the back. From this time the pain diminished and the purpura had nearly disappeared April 8.

Second case, M. S., aged fifteen, entered April 28. Ten days previously had sore throat and slight cough, pains in legs and feet. Small dark red rash (purpura) appeared on feet and ankles; has remained ever since. One week ago severe attack of pain around umbilicus, which doubled him up; has had it more or less since, with acute exacerbations, slight fever, no chills; vomited several times. No blood raised. Three days ago passed small amount of blood by rectum. No nosebleeds. This morning had four convulsions, half an hour apart, lasting fifteen minutes, in which he turned purple; seemed clear between convulsions; no headache; no retraction of the neck; no drowsiness. Bowels constipated. Micturition normal. No blood. Condition stupid; herpes on the lip; soft systolic murmur at apex of heart transmitted to axilla. Moderate tenderness over lower abdomen, especially just below the umbilicus; none over the appendix. Slight rigidity in lower abdomen. Purpuric eruption over both feet, ankles and knees. White blood count, 38,600. Few days later, profuse purpuric eruption on feet, legs, buttocks, back and hands. Abdomen held somewhat rigidly, no special spasm or tenderness. Reflexes negative, no more convulsions. Pain in the abdomen relieved by hot applications. From this time on purpura diminished and, with the exception of slight vomiting at one time, the abdominal symptoms disappeared.

Within recent years several writers have reported similar cases, in which the following may be taken as examples.

Orr<sup>6</sup> shows a case of transition from simple purpura to Henoch's. A girl when fourteen had an attack of purpura simplex rheumatica lasting ten days, with very slight arthritic symptoms. One year later she had another attack, which began like the former, with petechiae, then erythema with slight swelling of the joints. Two weeks after, abdominal pain with fluid blood from the bowels. For the next six weeks there were repeated cycles, as follows: Patchy appearance of tongue, rise in temperature and pulse, vomiting and diarrhea. In only two of these exacerbations, which occurred once a week, did the patient pass fluid blood.

Peter Davidson<sup>7</sup> cited two cases. One, a girl of nine; vomiting, severe pain, pit of stomach; later passed large quantity of blood and blood clot. Pain and tenderness several days. Previously had purpura in arms and legs. Second, a girl of six and one half; inflamed mouth and throat, nausea, vomiting and constipation. Third day, purpuric spots on knees and ankles. Three days later, convulsions. Unconscious for several hours. Severe epigastric pain. Enema brought some ounces of blood. Fading purpura seen on knees and ankles. Several fresh crops of purpura in five weeks, with colic. Blood from bowels. Hematuria with blood and epithelial casts. Temperature twice rose to 103. Recovery.

Day<sup>8</sup> Case presented swelling and edema around the joints; purpura; abdominal colic; vomiting; edema of the lax tissues; subperiosteal hemorrhages; hemorrhages of lungs; albuminuria; hemorrhages from the bowel; hematemesis; large quantities of phosphates in the urine. The dominant symptom disappeared as soon as a new one arose, namely, onset of colic, which was accompanied by relief of joint symptoms; onset of lung condition by cessation of colic, etc. As soon as the lungs were clear, the colic recommenced.

Nobecourt<sup>9</sup> cites, among other cases, that of a boy of ten. Acute abdominal pain localized at McBurney's point, anxious facies, vomiting, intestinal hemorrhage four or five days. Second, a girl of five and one half, acute abdominal pains, retraction of belly, anxious facies, bilious vomiting but no intestinal hemorrhage. Third, a girl of fourteen; abdominal pains, bloody stools for two days.

Howland<sup>10</sup> reports a case of Henoch's purpura with spinal cord symptoms. Girl of twelve, hematemesis, followed by hemorrhagic spots in the skin, swelling of joints, eyelids; bloody stools; lasted fifteen weeks. After convalescence, return, lasting five weeks. For about a year had frequent headaches; at fourteen third attack of purpura which disabled right elbow. During this year first attack of chorea. Two years later there were symptoms of hemiparetic character affecting the right hand. Anesthesia over limited areas in the right. Hot and cold sensation also diminished. These symptoms are given in great detail and the writer questions whether it was not a case of purpura with spinal cord hemorrhages. Joint condition may have been due to joint hemorrhage or spinal hemorrhage. There is a possibility in his mind, however, of syringomyelia with sensory signs and joint conditions.

The question of the operative interference with many of these cases has presented itself and has been differently answered. Obviously, if the abdominal condition is simply one of localized edema, or of purpura, it can be generally trusted,



as in the cases of my own which I have reported, to do without surgical interference. These conditions may, however, have produced other abdominal changes such as are everywhere recognized to be the proper subject for surgical operation. Especially marked among these is intussusception, which, there is reason to believe, is in many cases produced by a local edema involving a portion of the intestine which sets up violent peristalsis, so that the swollen portion of the bowel is invaginated into the portion next below, thereby producing serious obstructive symptoms. As will be seen later, other grave results may follow. I append a list of cases in which operation was performed, some of which were obviously, in view of the findings, unnecessary.

The first case is one of Sutherland. A boy of five had acute abdominal symptoms, consisting of pain, vomiting and bloody discharges. Abdomen was opened with expectation of finding an intussusception. The first thing to attract attention was an enormously distended bowel (descending colon and sigmoid). The cause of the distention was not very clear but was undoubtedly an angioneurotic edema. A portion of the small intestine, five inches long, was dark from extravasated blood, with thickened blood. Separated about half an inch from this was a circular band of red color, evidently a more recent hemorrhage into the wall of the gut, this dark, thickened portion of the bowel appearing exactly like an intussusception that had been reduced. For about five days after this operation the boy did well, then there was a return of bloody discharge and vomiting, and now, for the first time, appeared a few purpuric spots on the skin which afterwards grew more marked, and the usual relapses characteristic of Henoch's purpura showed themselves.

Burrows.<sup>11</sup> Boy of eleven taken sick July 6. Diagnosis, intussusception. Fecal vomiting, blood from the bowel, rigid belly, general tenderness all over the abdomen, no distention or lump. Tenderness in the recto-vesical fold. The abdomen being opened, at first showed nothing abnormal. Then small petechial hemorrhages and some irregular patches of congestion in the ileum were found a few inches from the ileocecal valve. Over this area peritoneum was sticky and without gloss. The author characterizes the operation as a useless laparotomy. Next day small purpuric spots appeared on back of elbow, on buttocks, and on each leg over the tendo Achilles and heel. In a few days there was a general eruption of purpura. It was later learned that on June 26, eleven days before admission to the hospital, the patient had walked lame, legs ached and were stiff. "Lumps and red spots" seen by the mother also on the elbows and buttocks. The boy felt quite well. Four days later this rash spread all over the body. After recovering from the operation, on July 25, there was a recurrence of same abdominal symptoms immediately after eating chocolate. At that time he passed one-half ounce of blood from rectum. Intense pain; followed three days later by another purpuric eruption.

Pybus.<sup>12</sup> A girl sick one week, frequent bloody stools. No vomiting, no tumor. Diagnosis at first was intussusception. Later diagnosis, urticaria of the mesentery. Edematous spots in various parts of the body. As the patient grew no better, abdomen was opened. Spots of congestion and edema of small intestine was disclosed. Abdomen was closed up, after examination of rest of bowel. A few days later she had an attack of purpura.

Harrington<sup>13</sup> reports an operation in a case in which the diagnosis of angioneurotic edema had been definitely made, but where the duration and severity of the abdominal symptoms seemed to indicate surgical interference. A girl twenty-six years of age had had symptoms which were suggestive of gallstones. Subsequent history showed that those symptoms were due to angioneurotic edema. The first attack was fifteen years ago. Swelling was confined to the hands and feet. She has had these attacks ever since, at decreasing intervals, the longest period of freedom being three months. Last few years, however, they would come as often as once in a fortnight. They affected not only the hands and feet, but extended up to the elbows. The face is less frequently attacked but occasionally becomes deeply edematous. Head swelling reaches maximum in one day, lips puff up quickly and remain swollen for four or five days. A similar swelling has been noticed over the scapulæ, buttocks and breast. The abdominal pain was not well defined but extended across the lower part of the abdomen without radiating into the back or shoulder. Attacks usually lasted for twenty-four hours, accompanied by nausea, vomiting and headache. There had never been vomiting of blood. On opening the abdomen nothing was found except engorgement of the intestines with blood, which at first suggested a mild peritonitis. There was no hemorrhagic area in the intestinal walls, but within a short distance of the ileocecal valve, there was a cylindrical enlargement of the ileum 2½ inches long entirely surrounding the gut, increasing the bowel circumference to twice its ordinary size. The swelling was evidently in the bowel wall, was elastic to touch and did not pit on pressure. Lower border of stomach was about half an inch below umbilicus, pylorus admitted tip of index finger. Appendix somewhat thickened and was removed, but on examination was found to be normal. Engorgement of intestines and free fluid were explained by the violent peristalsis brought on in effort to force down the lesion which was actually in the intestinal wall. There was no distention above the lesion. Convalescence was uneventful, but before she was discharged, another attack of skin swelling came on as before.

Morris<sup>14</sup> reports two cases, one of which the writer says was the first case of angioneurotic edema in which it was demonstrated that an edema existed in the mucous membrane of the stomach synchronously with an attack of nausea, vomiting and pain.

Smith<sup>15</sup> reports two cases of Henoch's purpura with abdominal symptoms, in one of which exploratory laparotomy showed visceral peritoneum studded with small ecchymotic spots.

Referring to Osler's caution against the performance of laparotomy for Henoch's purpura, under the error of mistaking it for visceral crises, of appendicitis, intussusception, obstruction, etc., Smith says that the history of two fatal cases of intussusception and one of perforation of the stomach which occurred in this disease, did warrant exploratory laparotomy, and that Henoch's purpura is not, therefore, entirely a medical disease.

Jacobson<sup>16</sup> reports an operation for a case of what appeared to be appendicitis of the usual character. He states that the organ was found to present numerous areas of hemorrhage into its substance. Four days after operation the patient developed cough and raised a large quantity of bright red blood. The same night, epistaxis. The next day began to appear spots of purpura all over the body. The case was one of purpura of which the first manifestation apparently was the hemorrhage into the appendix, which simulated appendicitis of the ordinary type.

Cook,<sup>17</sup> on the other hand, operated upon a patient for intussusception in which none was found. The case was a boy, aged twelve, who, three days after attack of rheumatism with purpura, developed vomiting, pain in the region of the navel. The following day hematemesis, diarrhea, tenesmus, blood and mucus in the stools. Dullness and mass felt in left side of abdomen. Stools were frequent and bloody. When the abdomen was opened what at first seemed to be an invaginated intestine was a portion of the small intestine considerably thickened for a distance of six inches; above and below this were normal intestine. Thickening was due to extensive extravasation of blood beneath the intestinal peritoneum. This felt like "worms in a bag." A few inches lower down was a second piece of intestine of precisely similar appearance. No peritonitis was present. Patient died of bronchial pneumonia. Post-mortem examination showed patch of purpuric staining of the right ventricle.

Nobécourt (*loc. cit.*) quotes a case of Calmers. Child of fourteen presented severe abdominal pain, especially at McBurney's point, with bilious vomiting. Diagnosis of appendicitis. Laparotomy showed bloody appendix and hemorrhagic spots in intestinal peritoneum. There were also petechiae upon the elbows and knees. There was a good result from the operation, but a new abdominal crisis developed four days later.

Tonking<sup>18</sup> described a case of intussusception produced by Henoch's disease successfully treated by operation. A boy, five and one-half years, taken sick June 2, earache and vomiting. Temperature rise next few days to 103. June 8, edema of scrotum was noted. June 10, pain in joints, preventing motion of right arm. Hands swollen. June 12, edema of the eyelids. June 13 and 14, purpura of the buttocks. June 18, great abdominal pain; vomiting. Swelling close to the navel detected within two hours. No blood from the bowel. Operation the same afternoon showed intussusception of small intestine several inches in length. Reduction was easy. Apex of intussusception looked like blood clot. Whole tumor was infiltrated with blood. Patient recovered.

Another case, of J. L. Morse and Stone, in a girl of seven. Purpura of the legs, diarrhea; two days later, melena and pain in right side of belly. Operation disclosed ileocecal invagination and seven days later same symptoms recurred without invagination.

Finally, operative cases have occurred in which Henoch's disease has produced perforation.

One case, quoted by Nobécourt; operation on boy of three. Operation revealed an ileocecal invagination which was reduced. Death occurred a few days after and the autopsy showed an enteric invagination with perforation.

Contrasted with this last group of operative cases are the following instances where lesions were produced by Henoch's purpura in which operation was not performed and where fatal result occurred.

The first of these is one of Sutherland's cases, which is to be contrasted with the one previously cited by the same writer, where an apparently unnecessary operation is performed.

In this second case, a girl of seven had a full clinical picture of Henoch's purpura with recurrent abdominal attacks. Finally came an attack more prolonged than usual, but with no signs of intestinal obstruction until the very end. She died in a convulsion, and the autopsy showed peritonitis with an intussusception of the sigmoid and part of the ileum for four inches into the colon, and a rupture of the bowel. The fatal attack was

induced by hemorrhage into the wall of the colon near the cecum, which led to paralysis of part of the intestine and irregular muscular contraction of the neighboring part.

Another case of Nobécourt; a girl of fourteen, who died after an illness of twenty days. On the 14th of January she had gastric pain; two days later, pains in the knees and purpuric spots; three days later, with high temperature, purpura had involved the thighs and legs. Four days from onset of pain, there was bilious vomiting, hyperesthesia with rigidity; red blood passed from the bowels and red blood was vomited. Two days later the old spots had faded, but new ones had appeared, with blood in the urine. Eight days from the onset of the sickness, there was hematemesis and melena, and for the following five days new purpuric spots appeared, with albuminuria. Thirteen days from the onset, the abdominal pain was much increased and there was muscular resistance. Four days later pain had increased. Especially on the left there was muscular contraction of the abdomen. Temperature had risen to 40 C. This was followed two days later by meteorism, the facies became drawn, and there was vomiting of green material. On the twentieth day of the illness, death occurred. The autopsy showed general suppurative peritonitis; extremities of small intestine showed lesions; lower end of the ileum, an engorgement 30 cm. long, and in the duodenum and jejunum, black in color, there was a perforation size of pin head, 15 cm. from the pylorus.

A case of Silverman, quoted by Nobécourt. Child of ten, some days after onset of purpura, had colic, hematuria and melena, which ceased after two days. Fifteen days later there was a new attack with symptoms of acute peritonitis, and death followed operation. Autopsy showed purulent peritonitis consequent upon a gastric perforation.

This last group of cases indicates the extreme gravity which may occasionally attach to Henoch's purpura. In the group of operative cases, some of the operations were apparently unnecessary, but on the other hand there may develop grave lesions which would have been fatal if unrelieved, and the final group of cases, in which no operation was performed, showed similar lesions which did prove fatal.

These facts make it evident that the question of surgical treatment in Henoch's purpura is a very important one and, while we should probably in the majority of cases recognize that the lesion is one which will subside in the intestine, as it usually does in the skin and other mucous membranes, we are not to assume that surgical interference may not, in certain cases, be urgently and promptly required.

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## A SHORT ACCOUNT OF THE EARLY HISTORY OF SUPRAPUBIC CYSTOTOMY.\*

BY CHARLES GREENE CUMSTON, M.D., BOSTON,

Member of the Deutsche Gesellschaft für Geschichte der Medizin und der Naturwissenschaften and Société française de l'histoire de la médecine.

MANY writers are of the opinion that the first operation of suprapubic cystotomy was performed on the archer of Bagnolet in January, 1474. The following is the description *in extenso*, as given by Naudé.

"The great desire and affection that he had [Louis XI] for the progress and advancement of science was such that, as Celsus has said, *Incidere virorum corpora et crudele supervacaneum esse*, and even although many laws prohibited physicians and surgeons from opening and dissecting bodies executed by law, he, nevertheless, permitted them to open the living body of a Franc-archer condemned to death, in order to recognize the causes and the formation of stone, as has curiously remarked Monsieur Riolan, the most learned and celebrated physician and anatomist who now exists in Europe, following the report which has been made by the author of the '*Roster des guerres*,' in these terms, copied and transcribed word for word from the '*Chronique scandaleuse*.' At this time, in the month of January, 1474, a Franc-archer of Meudon, near Paris, was a prisoner in the prisons of the Châtelet, on account of several larcenies which he had committed in various places, and even in the church of the said Meudon. And for these causes, as well as for sacrilege, he was condemned to be hung and strangled on the gallows in Paris. His name was Montfaulcon, and he appealed to the Court of Parliament, where he was brought to argue his appeal; by this court and by its judgment the said Franc-archer was declared to have malappealed and had been well judged by the Prevost of Paris, to whom he was returned in order to undergo his sentence. Upon this same day the King was shown by the physicians and surgeons of the said city that several and various persons were extremely ill and molested from the stone, colic passion and pain in the side, the Franc-archer having been similarly molested, and Monsieur du Boccaige was at this time very much afflicted by this disease so that it would be very advisable to observe the location in which the said disease was seated within the human body, which fact could not be better known than by incising the body of a living man, which could be very well performed on the person of this Franc-archer, who was on the verge of undergoing the penalty of death, which opening and incision was done on the body of the said Franc-archer and the above-mentioned localities within the body were examined. And after they had been seen he was sewed up and his entrails placed back within him. And by the order of the King he was very well cared for and his wound dressed, so much so that within fifteen days he was perfectly cured and his sentence was commuted, and with this he was given money."

From what is here said it would appear that an

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extraordinary operation had been performed, one which had never been heard of and by which the possibility of its undertaking was to be demonstrated. However, the perineal incision was at this epoch a frequent operation, the surgeons exclusively employing Celsus' technic. This consisted in introducing the left index and middle finger into the rectum, the right hand being pressed over the lower abdomen in order to hold the calculus. The left fingers pushed it forward until it reached the neck of the bladder, and when it had reached this point the skin was incised by a crescent-shaped incision near the anus down to the neck of the bladder, the horns of the crescent being slightly directed towards the thighs. Then at the lowest point of the crescent-shaped incision a second transversal one was made in order to open the neck of the bladder, the opening into this viscus being made a little larger than the diameter of the calculus. If the latter was small it was pushed forward by the fingers in the rectum and withdrawn by the right hand; if it was large, however, a hook was passed over its upper pole and it was then removed.

In the works of Guy de Chauliac, Brunus, Lanfranc, William of Salicet and Theodoric are many passages which indicate that this method was the only one employed by them. On the other hand, the surgeon who operated so brilliantly on the archer of Bagnolet is unknown, because Devaux is the only one who says that it was Germain Colot who "begged the King Louis XI to accord freedom to the condemned man if he would allow the operation to be performed on him. The King accorded this permission and the archer went through the operation admirably." Now François Colot, in his work on calculus, does not mention this famous exploit as having been accomplished by his ancestor, and, consequently, it is very probable that in the case of the archer of Meudon the kidney, and not the bladder, was the seat of the disease.

The first suprapubic cystotomy, the account of which is absolutely authentic, was performed in 1556 by Franco, a surgeon of Lausanne, who, in his *Traité des Hernies*, relates the following case:

"It once happened to me that I desired to remove a stone from a child of about ten years of age but all my efforts in order to bring it down were vain. Seeing this, and as the patient was extremely insistent, and the parents still more so, desiring that the child should die rather than live in such agony, I did not wish to be reproached for not having removed it, so much so that foolish as I was I decided to open the bladder on the penil a little to the side. This I accomplished by cutting on the stone, by raising it up with my fingers introduced into the rectum, having it held in place by the hands of an assistant who compressed the little belly, and by this means I withdrew it. The said stone was the size of an egg. And, nevertheless, the wound closed and was cured. However, I do not advise resorting to this means, rather employing the method that we have invented and which we have spoken of previously."

It is, therefore, clear that Franco performed

this operation in despair in order that he should not be reproached for having slightly drawn on the stone; but he did not make a perineal incision in the first place as certain writers believe, because he simply says that it was impossible for him to bring the stone down, that is to say, to bring it into the neck of the bladder according to the method of Celsus. And lastly, his conclusion is particularly interesting for he cautions against this technic in a most absolute way and only advises it as a supreme resource. He praises the technic which he invented, that is to say, perineal section in two stages, viz., incision on a sound introduced into the urethra, and then several days later, when the patient is found in good condition and without fever, the stone is withdrawn.

I have somewhat lengthily insisted upon this point because many historians have tried to show that Franco recommended suprapubic cystotomy, when in reality his preference is entirely for the perineal section in two stages. His conclusions have, in the history of perineal section, a very great importance, and I will point out that many writers base their teachings on his authority to reject suprapubic cystotomy. Consequently, the sixteenth and seventeenth centuries passed by without any surgeon daring to renew his essay.

However, the discussion of the question was not closed, for it was very well studied from the theoretical standpoint as well as by numerous experiments, and many writers concluded that suprapubic cystotomy was a very easy undertaking and favorable from the standpoint of the patient. It was Rousset who was the first to propose suprapubic cystotomy as far superior and more practical than the perineal route, and for this reason I shall consider his work in detail and endeavor to point out with what remarkable precision and scientific acumen he created the very simple technic of his operation. Rousset first published in French his *Traité nouveau de l'hysterotomotomie* in 1581 and then, nine years later, in 1590, this work still more complete was published in Latin, several pages of which were translated by those lithotomists who performed Franco's operation.

Rousset was one of the most ardent partisans of the Cæsarean operation, and perceiving that the latter was easy to perform, he was of the opinion that the bladder could be reached by the abdominal route without danger. From his comparison between an incised uterus and section of the bladder in cases of calculus he in the first place refers to the objectionable points of the perineal incision: "In the ordinary incision of the bladder by the perineum one only proceeds by groping either in the cutting or in finding the calculus, one or several, and still more when withdrawing them; in such a way that often the most dexterous operators know well themselves that they have often been constrained to leave their work imperfectly performed or to grab, tear away and bring along with their instruments a good portion of the bladder with the calculus. . . . Why, then, should one submit to this danger of incision without need? . . ."

In another part our author says that there are several large veins, arteries, muscles, nerves and sphincters in the perineum, that one is in the neighborhood of the spermatic vessels, tendons and ligaments which it is dangerous to injure while searching, incising, dilating or rather cruelly lacerating the parts and the bladder by instruments introduced through the perineal incision. He then points out that all these dangers are avoided by the suprapubic method, which for all these reasons is a less dangerous route to follow. He then goes on to point out that a number of accidents occur in the perineal operation, which makes it still more to be feared, among others incurable perineal fistula. Further on he makes the statement that he has given much time and study to the new operation that he advises. And from another passage it is manifest that Rousset certainly had the intention of creating a new method not founded on the fortunate case related by Franco, but based upon his knowledge of abdominal incision and the theoretical advantages of this route.

Further on, in speaking of the operation undergone by the archer of Meudon, he proscribes, in spite of its successful outcome, this hazardous operation. According to his way of thinking it was a happy exception but one which should remain isolated because, "as a single swallow does not assure a spring nor a beautiful summer's day, a single experiment is not sufficient to solve such difficulties."

After having given the reasons which caused him to prefer suprapubic cystotomy, Rousset describes the technic in his second work, which appeared in Latin. We will give *in extenso* a translation of the essential portions of this work.

"We must now speak of the parts to be cut and the necessary instruments; the site of incision is double: extern and intern. The first incises the skin and the underlying fat occupying the pubic region. The other is hidden in the midst of the same region between the two recti muscles in their deeper part, or rather, between the two short muscles which are their auxiliaries, and under which is hidden the membrane coming from the pubis and extending to the fundus of the bladder to which it is adherent.

"Over the muscles is the fat and above is the skin, which should be incised with a knife to the extent of about three to four fingers' breadth, afterwards the fat, which is without sensation, and lastly the intermediary region between the pyramidal muscles, all this with prudence.

"The last spot (which is internal) should be incised with great dexterity with the point of a curved knife directed near the pubic bone, the knife directed not perpendicularly to the abdominal wall, but a little lower, rather directed towards the upper part of the neck of the bladder which is further on but nevertheless leaving it quite as intact as the neighboring bone; this is an extremely small opening (so that the fluid in the bladder shall not escape), but sufficiently large so that a lenticular, curved and cutting knife may be introduced, but having the shape of

a lentil, with a dull point, but cutting on its edge; it should be introduced with dexterity into the wall of the bladder so that the incision may be rapidly made. From this point, the blade comes almost in the middle and is drawn towards the upper part of the incision, dividing the recti muscles in the middle, as has already been stated, having care that nothing shall be moved during the penetration of the instrument.

"In order to accomplish this one should have ready three knives, — one similar to a barber's razor, to be used for cutting the skin and fat; the other curved with a blade on one side only and dull on the convex aspect, that should be held above, in order to thus surely divide the median vesical membranes and the bladder, but one should not go too high; then only will one have ready the third knife necessary for the last incision.

"This knife should have the shape of a scythe, but with the tip dull so as not to prick the inside of the bladder nor injure the intestine in the least; for this reason it should be lenticulated, similar to the knives employed by women for cleaning the intestine in preparing tripe; one should be careful that the blade be somewhat broad but dull and without a point, nevertheless cutting well on its edge.

"Then from the pubis upwards make an incision from two to three fingers' breadth (rather less) in length; the fluid having escaped, a finger of the other hand introduced into the patient's anus pushes the calculus up towards the bladder opening, and two fingers of the other hand seize it; one may employ pinchers made for this use to withdraw it. If, then, other smaller stones remain, they are to be removed by a special spoon; if the pinchers are a little bit too large a curved pliers may be employed and are very useful.

"All the parts incised may be dilated as much as desired and much more easily and fully than in the perineum, which is usually enlarged with a dilator, an instrument which makes one shiver to think of, while in the preceding method there is no fear of tearing the parts while extracting the stone."

Rousset exposes in an authoritative and complete way his operative technic; nevertheless, this is not sufficient for him because he searched for new details and all possible improvements that were feasible in his procedure. For instance, he describes another mode of incising the bladder, which I will describe in a few words. After having injected a tepid liquid into the bladder, a stylet is introduced into the latter by way of the urethra upon which the soft structures and bladder are incised. If the injection is too painful on account of the sudden distention of the bladder, he advises ligating the penis two or three days before the operation. It is not in our province to criticize Rousset's technic on account of its extreme simplicity, and it may also be said that it was only slightly changed by those surgeons who later on performed suprapubic cystotomy. Rousset never performed the operation on the living, but

states that he has performed it many times on cadavers. Then, wishing to operate on a living subject, he endeavored to obtain from Henry III the permission to operate on subjects suffering from vesical calculus who had been condemned to death. He states that the king had offered him four patients or more, and agreed to commute their sentence if they were cured by the operation, but unfortunately the king at this time died and Rousset could not affirm that the incisions made in his technic were not lethal.

The history of medicine, and particularly that of cystotomy, readily explains why lithotomists gave up this operation for so long a time, and a few words relative to the doctrines which reigned at this time in both medicine and surgery, likewise the general traditions which weighed heavily upon the minds of the profession, may not be out of place here. Hippocrates and Galen, particularly the former, enjoyed such authority that it was an unheard-of audaciousness to rise against their doctrines, and any surgeon sufficiently daring to so do ran the risk of wrecking his reputation from the irony, sarcasm and insults among his profession. Nothing could avail against an aphorism of Hippocrates, neither experience nor demonstration; the facts themselves did not even make a breach in the prestige of the Father of Medicine, and it was necessary that only little by little during the seventeenth century surgeons did away with the old theories and became sufficiently energetic to combat tradition. Then, and then only, they began to put in practice Rousset's ideas. Even at this epoch it is evident that their bearing is above all apparent, that they have a secret fear and repugnance to have recourse to this method; and we look upon the curious spectacle of surgeons having happily performed a suprapubic cystotomy, accepting with enthusiasm and exclusively resorting to the very complicated and painful operation of perineal incision.

In point of fact, the ancients forbade the incision of the body of the bladder, — "*cuy vesica persecta . . . lethale*," — and, confident in their science and experience the lithotomists performed Celsus' operation. They reached the calculus by way of the perineum, and for them this route was the one of choice in incising the bladder. They willingly accepted the improvements made in the latter operation, but suprapubic cystotomy seems to have inspired them with such terror that it paralyzed the efforts of those who wished to disengage themselves from the ideas received and to impose upon the profession a rational method. To this motive of a general order other reasons of a particular nature, especially relating to perineal section, were added. Now, in 1581, when Rousset proposed suprapubic cystotomy, it has been noted that Celsus' technic was only employed in children and in easy cases. A new method had taken its place, namely, the greater apparatus, so called, and I desire at this point to make a few remarks in order to show the state of the question at this time.

The greater apparatus was invented in 1525 by

Johannes de Romanis, a physician of Cremona, and was introduced into France by Laurent Colot, who taught his art to his son Philip. Here, rapidly exposed, is the technic of the greater apparatus according to François Colot, whose posthumous work was only published in 1727 by Sénac. A deep incision is made, almost parallel to the raphé, ending near the anus, so that only the lower portion of the urethra has been incised, and the neck and corpus of the bladder are not involved. From below upwards a conductor is pushed into the bladder and on this a knife; then a dilator is introduced and finally the pinchers are inserted into the wound between two conductors and are made to seize and extract the stones. The large number of instruments and multiple maneuvers made the operation a most laborious one for the surgeon and extremely painful for the patient. But in spite of difficulties of all kinds, and a very high mortality, the greater apparatus was, nevertheless, accepted in France by surgeons generally.

Laurent Colot enjoyed a very considerable reputation, but he refused to operate in the presence of surgeons, reserving the right to transmit his science to his descendants as a true patrimony, and in truth the secret was completely kept until the day when François Colot was surprised during his work by two disloyal competitors. Thus the Colots defended with energy and conviction the superiority of the greater apparatus, while their elevated situation gave great weight to their teachings. For all these reasons Rousset underwent a complete check. He could not operate on the living and, on the other hand, he came against almost unconquerable obstacles, viz., the Hippocratic tradition and the official favor which the greater apparatus enjoyed, its superiority being maintained by the king's lithotomist, Colot.

However, in 1628, a work appeared at Bâle entitled *Lithotomia vesicae* by Guilielmus Fabricius Hildanus, in which the author refers at considerable length to the operation performed by Franco, "who decided to extract the calculus in the groin at the upper part of the os pubis." This gross error he reproduces in referring to Rousset, whose conclusions he also does not accept. He points out that this operation should not be attempted in all adults, because the length on one's fingers is not sufficient to bring the stone up so that it can be made to project into the groin, and he points out, not without pride, that he can demonstrate this in his museum.

Nevertheless, Hildanus accepted Franco's operation: "If the calculus is very large, . . . I prefer the inguinal incision to that made in the neck of the bladder; in point of fact, the calculus is brought up into the groin with less pain and danger than by the extraction through the neck of the bladder; of this I am absolutely persuaded, particularly in the male." The writer then gravely describes his operative technic in order to bring the calculus up to the groin and extract it. Thus, not only was Rousset unable in spite of his efforts to put his theories in execution, but there ap-

peared a writer who altered the nature of and misrepresented his ideas to such an extent that they became quite in opposition to all anatomical knowledge. Hildanus, for that matter, puts forth his affirmations with most exquisite coolness, speaks of his museum with satisfaction and emits a conclusion which appears based on his knowledge and experience: "Nevertheless, the wound in the fundus of the bladder may cicatrize as has been observed; on the contrary, the extensive wound in the neck of the bladder cicatrizes with difficulty, and this is easy to understand since the urine coming to this spot continually moistens the wound, prevents cicatrization, and a perpetual dribbling of urine results." From what I have said I believe it unnecessary to further expose the errors of Hildanus.

In 1635 Nicholas Piètre upheld a thesis in which he at least has the merit of having fought against the reigning ideas of his time. Taking up Rousset's operation with fewer details, and without bringing forward any new facts, he commences by proving that the bladder is not completely covered by the peritoneum when distended. Then he indicates the manner of operating and states it is not difficult to open the bladder above the pubic bone, neither is it at all difficult to remove the stone by this route. He further remarks that this method is easier for the operator and less painful for the patient and that the after-effects are less disagreeable because the wound heals of itself without dressing. In conclusion he maintains that suprapubic cystotomy is the method of choice. It is probable that Piètre limits himself to expressing this opinion without daring to put the theory in practice, although he seems to be firmly convinced of its excellency. At any event, all the works on surgery of the epoch are silent on the question of the suprapubic route and, nevertheless, this thesis must have had a certain amount of influence at the time because Guy Patin, in a letter addressed to Bertholoier in 1649, refers to it.

In 1636 Nück merely refers to Franco's operation in a few words, but four years later, in 1640, Covillard comments upon it in the following terms: "It is absolutely true that one should not found the arts on infrequent occurrences, and this happy success is rather due to the vigor of the natural faculty and to the good constitution of this young body than to the dexterity of opening or the subtlety of the invention." According to his way of thinking, Rousset was a very learned physician, "who was desirous of showing originality by edifying a theory on a happy chance, because, assuredly, the greater apparatus is the least dangerous of all the operations to which one resorts." Covillard thoroughly represents the ideas which dominated at his epoch; the greater apparatus had attained its complete perfection and its great renown at the hands of François Colot, the most celebrated lithotomist of the seventeenth century. Nevertheless, Piètre's thesis and the discussions to which it gave rise caused Colot much uneasiness, and he felt that it was necessary to act at once in order to crush the new method which was



at the threshold of the entrance into practice. The physicians themselves were confused in their faith in tradition, and they were curious to know if in suprapubic cystotomy there was not a very precious resource. Thus, De Lamoignon, being desirous of satisfying them, ordered Colot, who appeared the most proper person for this mission, to undertake experiments on the cadaver and report his conclusions. It is hardly necessary to say what these conclusions were, and he states that, among other things, there were unconquerable obstacles for the performance of the operation. "The conclusion was to reject and to abandon any design that one might have of employing Franco's method for removing a stone from the bladder in the future; the operation is all the more dangerous from the fact that it is most deadly. The deliberation which was the consequence of this report by Monsieur le President and by the administrators of the Hôtel-Dieu of Paris, the advice of the late Monsieur Brayer and other physicians of the Faculty of Paris justifies the rejection of this method."

Franco's operation was consequently condemned by the most celebrated physicians of the time, and the greater apparatus triumphed without any contest.

In 1658, Thévenin alludes briefly to suprapubic cystotomy, but it would appear from what he says that some surgeons do not fear to resort to it. He says: "Others fill the bladder with liquid by injection, and having tied the penis, for fear that it will empty itself, they make an incision in the fundus of the bladder along the linea alba and at the same time that the urine gushes out they introduce a conductor into the bladder, along which they slide a dilator, and the dilatation being made, they seize the stone with a pincers just as is done in the greater apparatus; afterwards they dress the wound as those who operate by the perineum excepting that they do not insert a cannula."

I am under the impression that Thévenin had never seen this method employed and that it is more probable that he here makes a slightly ambiguous allusion to Rousset's writings. Likewise, in 1661, Riolan speaks in the most confused manner of hypogastric puncture, while, on the other hand, in 1675, Barbette, a famous surgeon of Amsterdam, writes quite lengthily on the suprapubic route; his reference to it I will here translate. "There is still another manner of removing the stone: the surgeon having introduced his fingers into the rectum, pushes the calculus forward and then brings it out through the opening which has been made in the rectus muscle in the direction of its fibers, above the os pubis by means of the spoon or the pincer; if one performs the operation in this way, one should in no way fear a dripping of the urine and besides there is a larger space given through which the stone may be withdrawn; but, however, this operation is dangerous and unfortunate in itself because if the borders of the wound made in the bladder do not become approximated against the muscles of the abdomen, an ulceration of the

bladder arises, which is not only followed with a great deal of pain, but may become more incurable than the stone; the which incommodities have been the cause that good practitioners resort to this operation less than to others."

This passage is interesting on account of the author's conclusions, and one may be led to suppose that Barbette had performed it or had seen it done, but on this point I have no further enlightenment. I am rather led to infer that he simply exposes the theoretical viewpoint, but his appreciation, even unfavorable, is to be remembered, because it shows the state of mind of the surgeons and lithotomists towards the end of the seventeenth century.

In his *Traité de la lithotomie*, dedicated to Jonnot, whose pupil he had been, Tolet states that suprapubic cystotomy had been performed on the living by Bonnet, as is evident by the following quotation: "Monsieur Jonnot told me that Monsieur Bonnet, a surgeon who formerly performed lithotomy at the Hôtel-Dieu of Paris, had assured him that he had operated in this manner. Monsieur Petit, master surgeon of this hospital, has told me that he had seen it performed on a little girl by this same Monsieur Bonnet."

Dionis relates this fact without any comment, while on the other hand the famous English surgeon, Douglass, denied Bonnet's operation, in the first place because, as he pretended, the former only refers to it in an indefinite way, and secondly because a Paris surgeon of long practice, and who had been many years the friend of Petit's, had assured one of his friends that Bonnet had never spoken of this operation. He likewise denied that the suprapubic operation was performed by Groenvelt before he had himself undertaken it. It is well to point out that Douglass was the first to revive this method and endeavored to show that he systematically and frequently resorted to this operation. On the other hand, Tolet's opinion is to be taken into consideration; he obtained his information from his master, Jonnot, and having no interest whatsoever in the question, his veracity is absolutely certain. On the contrary, Douglass evidently speaks from a one-sided point of view, and further on it will be shown to what point his pride brought him. It may, consequently, be admitted without reserve that Bonnet performed a suprapubic cystotomy on the living, but we would at the same time point out that this is an isolated instance which has no consequence in the history of the operation.

From what Tolet says in his book it is evident that the operation had not advanced a single step, and it would even appear that the question had been completely eliminated from the discussions among lithotomists. In 1698, Soligen put forward certain theoretical reasons which are summed up in Deschampe's *Traité de la taille*: "He proposes to inject the bladder with air, to make the incision beside the linea alba, then to inject milk, then to introduce a hollow sound into the urethra so as to give issue to the urine. He considers that the abdominal wound should be closed with sutures, but does not distinctly indi-

cate that the walls should be comprised in them."

We now come to Dionis, who renewed Rousset's attempts. He presents a lengthy theoretical defense of the operation and also gives a minute description of the technic. It is to be noted that, like Piètre, Dionis neglects to mention Rousset, and, nevertheless, all his ideas are freely borrowed from the latter, to such an extent that certain sentences almost seem to be a translation of the writings of his predecessor. In other words, according to my way of thinking, there is no originality in the writings of Dionis on this subject. Although rather long quotations from this author will be made, it is done in order to compare the two writers, and on the other hand in order to bring into relief the prominent part played by Dionis' brazen plagiarism of Rousset. Here is the technic advised by Dionis after the bladder has been filled with tepid water and the penis tied. "The patient is seated in a chair almost on his buttocks; a longitudinal incision with a knife is made between the heads of the recti muscles and the two pyramidals; after which, pressing the finger on the fundus of the bladder, one will feel the fluctuation of the water, which distends it, and then with a large lancet a puncture is made into this organ at this same spot. One will know exactly when the bladder has been opened by the water which will flow out, and immediately with the crochet one can withdraw the stone or introduce a long and narrow pincer into the opening by which the water flows away, and having found the stone in the bladder, it will then be easy to seize it and withdraw it through this opening. The wound will heal without any trouble, because, keeping the patient sitting almost upright in bed, the urine which continually comes into the bladder cannot rise up to the level of the wound and prevent its healing, as it does in the other two ways of operating, and what is more, the urine always finds its ordinary route for flowing off. If the wound made in the abdomen appears too large, and if it is thought that it cannot be united with these, a waxed thread on a curved needle may be passed (thus employing one suture), and on the wound a dressing of lint, a compress over this and the circular binder made with a napkin to end by the scapulary which will hold the entire dressings in place." Just as Piètre had done, Dionis discovered great advantages in this method and he points out that it is not dangerous and is easy of execution. He says: "I do not find this operation so perilous as might be imagined. On the contrary, I consider it less dangerous than the small or the greater apparatus, all the more so that . . . the bladder is situated outside the peritoneum so that one may open without touching this membrane and without entering into the abdominal cavity."

After this praise of the suprapubic incision, it might be hoped that the writer would conclude that this operation could be performed without complication, but Dionis, who, under his personality, did not fear to expose a method renewed from Rousset, is far more prudent when passing

from words to acts; for not only does he not dare to try his method, but he does not even advise it; he is of opinion that a prisoner condemned to death and having a stone must be waited for in order to operate, and he says: "This method appears the best; but before giving it the preference its superiority must be demonstrated by several experiments, the first of which might be made on some criminal condemned to death and who is the possessor of a stone. I am not the only one to approve this operation; it is the sentiment of several physicians and surgeons, and especially that of Monsieur Fagon, first physician to the king, whose approbation is of the highest order on account of his special knowledge that he possesses of nature." This was also Rousset's sentiment, which Dionis is very careful not to refer to. He wished to give to his lectures delivered at the Jardin Royal an appearance of brilliancy and originality without being morally obliged to perform the operation himself, although he refers to it in the most enthusiastic way. It may be added that this lecture was followed by a rather brutal declaration and quite in opposition with the thesis that he had just upheld, because, according to his way of thinking, the greater apparatus is "that which is resorted to the most frequently and which has been considered the best up to the present time."

From what has been said I think that Douglass is quite right when he states that Dionis is in such little accord with himself when he says that it is very difficult to say whether he approves or disapproves of it and that he had neither the talent nor the courage to undertake it. It would seem that Dionis, after having appropriated Rousset's method, waited for a lithotomist sufficiently audacious to undertake it, and thus he saved his reputation. To sum up, it may be said that Rousset, in 1590, waited to obtain a criminal with a death sentence afflicted with stone in the bladder, in order to operate, and in 1710, Dionis, first surgeon to the late Dauphiness, did not hesitate a minute to come to the same conclusion. The result was that the necessary subject did not present himself either to the author of genius nor to his plagiarism. The latter's writings had, however, an undeniable influence because it caused surgeons of the time to become acquainted with what they supposed an original method, when in reality it was a theory emitted over a century previous.

Fehr, of Bâle, less erudite and scrupulous than Dionis, writes of the suprapubic route according to the teachings of Hildanus. Fortune, however, served him badly and he gravely repeats the ridiculous assertions of the surgeon of Berne and does not hesitate to reject this operation "which is performed in the groin (*in inguine*)."

He then goes on to say: "I do dissuade its use both on account of the dangerous lesions of the abdominal muscles as well as for the wound in the bladder, without forgetting the difficulties in the extraction of the calculus; and then again union of the bladder wound is almost impossible, and one can hardly ever obtain cicatrisation."



Garengot remains in the domain of theory, at least he does not blindly accept the ancient tradition. He appears to be perfectly ignorant of Rousset's writings, or at any rate he does not publish them anew in the form of a personal dissertation. Franco's operation appears to him legitimate because wounds of the bladder, even according to the ancient authorities, may cicatrize, and he foresees the time when suprapubic cystotomy will find its place in surgery. He says: "If I have passed this method over in silence, it is because I have never seen it practiced and to-day it is entirely rejected. Nevertheless, if one reflects upon the experiments that I have brought forward to prove that wounds of the bladder are not lethal excepting in those places where the urine may stagnate, one may conclude that a wound made with cutting instruments, in the fundus, may heal quite as easily as one made in the neck. And what is more, we find examples in the ancient writers, and for this reason I do not give up hope that this operation will some day be renewed and that the learned surgeons of Paris who endeavor to discover the most simple means, the surest and the most prompt for operating, will give us examples in the future; the same applies to incisions made in certain parts of the lower abdomen which they hold to-day in horror, but which I have seen performed by my late father with all possible success."

Thus ends what I may term the first period in the history of suprapubic cystotomy. Franco performed his operation and Rousset established the theory which remained complete but without application until the advent of Douglass.

Dionis' work obtained a great success, not merely in France, but in other countries as well. In England, James Douglass, member of the Royal College of Physicians, presented, in 1718, a paper in which he demonstrates the advantages of the suprapubic route. His brother, John Douglass, lithotomist to Westminster Hospital, seduced by this theory and more daring than the surgeons who had gone before him, undertook and successfully carried out this operation on Dec. 23, 1719. Proud of his success he endeavored to increase his reputation by completely adopting this method and publishing a work of considerable magnitude entitled, "*Lithotomia Douglassiana, with a course of operations.*" In this work he faithfully reproduces the ideas of Dionis, and the same reproaches were made him as to the former. He, nevertheless, denies having imitated the French surgeon, but the texts are so evident in this respect that in his *Traité de la taille*, Deschamps has placed side by side the principal paragraphs of these two works and in comparing them no doubt can remain in one's mind.

Douglass shows nothing personal in his technic, but it is interesting to observe that he ignores the works of Rousset before operating, but afterwards he had knowledge of them by one of his colleagues who had returned from France. He then speaks in highest terms of Rousset's writings, but he appears to us less sincere when he denies having taken nothing of use in Dionis' book, which I

have already referred to. The praise given to Rousset was quite indicated because it was in no manner embarrassing, and although Dionis is referred to by Douglass in a most scornful way, he was in reality the direct cause of the boldness and success of the English surgeon.

In his book, Douglass relates in a very complete way the various methods of cutting for stone employed in his time, and then he takes up the technic of suprapubic cystotomy, first referring to Franco's operation. His technic consisted in introducing a sound into the bladder made of the urethra of a bull and then filling the bladder with water, after which the penis is compressed. He then incises in the median line, commencing at the upper part of the tumor formed by the distended bladder, or perhaps a little further down, in relation to the size of the stone, and this incision is carried down to the pubis. The incision is then deepened until the fluctuation of the bladder can be distinctly felt with the fingers. The blood is then removed with a sponge soaked in hot water, after which with another knife, the point of which is pressed into the neck of the bladder until the cavity of this organ is entered, then holding the knife perpendicularly, an incision of necessary length is rapidly made towards the fundus. The stone is then either removed by the fingers or pincers. It is evident that this method described by Douglass strangely resembles the description given by Dionis and no further reference will be made.

Douglass was induced to resort to the suprapubic route because Franco, before him, had obtained a brilliant success and also because, contrary to tradition, he had noted that wounds of the bladder are not all lethal. He lengthily presents the advantages which his operation possesses, and victoriously replies to the objections which other authors made. He points out that this operation is less dangerous, that impotency never follows it, there is no incontinence of urine nor fistula; the parts incised are not lacerated and there is no hemorrhage; this operation is easy and rapid, while the operative results are good; the stone is never broken and is always found. If the calculus is adherent it may be detached with less danger, a portion of the bladder is never torn away and a recovery is more prompt. From this it is evident that Douglass' plea is very complete and enthusiastic, but I believe that his conclusions in its favor are, perhaps, too hasty. In point of fact, he only records four operations in his book, one followed by death, but Douglass, persuaded by the excellency of his method and its superiority over all others, wished to perform it in public, but instead of accepting his proposition the lithotomists rejected it with scorn as injurious to the characters of the lithotomists, with one exception, and that was the famous Cheselden, surgeon to St. Thomas's Hospital. However, Douglass showed his patients to his colleagues and one of them upheld that the abdominal cicatrix was nothing less than that produced by a cautery!

However, several English surgeons resorted to this operation, viz., Cheselden, Macgill, Pye, Bamber and Thornhill.

In a few years Douglass' method obtained great success in England, which finally spread to the Continent. Tennigs, of Königsberg, upheld a dissertation in which he claimed that the suprapubic route is the one that should be generally resorted to, but his conclusions are not based on any personal facts, simply on those of Rousset, Dionis and on the results obtained by Douglass.

More audacious, the noted Heister, of Helmstad, renewed the operation of the English lithotomist, and after having operated a patient by Rau's method he left in the bladder a large piece of stone, which he removed on the following day by the suprapubic route. The patient died from what apparently was a pyelonephritis seven weeks later. This mishap did not discourage him and in a little dissertation published in 1728 he related some successful cases, to which he adds those of Proebisch, of Königsberg, who also vainly endeavored to suture the walls; those of Runge, who obtained a cure in a patient whose intestine protruded through the abdominal wound during the operation.

Douglass' teachings were with difficulty taken up in France. Reference has already been made to the remarks of Garengot in 1720, and in the posthumous works of François Colot, which were published in 1737 by Sénac, the latter in the preface speaks with great praise of the suprapubic operation. He was also cognizant of the writings of Douglass and Cheselden. He was likewise conversant with the experiments carried out by Thibault on the cadaver, and states that Douglass' success had brought out the operation from a kind of lethargy which closed the eyes of the profession to all novelties; but it soon became plunged again in this sleep, varying capacities of the bladder having caused disgust. Sénac goes still further and he says: "It is not on the dead body that I have made these reasonings; a surgeon of my acquaintance operated on a pig which recovered in a few days; I have been assured that there was another who undertook this operation and that the outcome was not quite so favorable." It is, consequently, most interesting to know Sénac's opinion, because he was in a position to render an unbiased opinion, but it is most unfortunate that he does not mention the name of the surgeon whom he had seen operate. In his opinion the incision of the abdominal structures presents nothing dangerous, but the incision of the bladder may be feared. However, he shows that the success of Douglass and Cheselden had demonstrated that the operation was a good one, and points out that if the suprapubic route was neglected one was thus losing a resource which might save the lives of a great many.

At this same time, Morand undertook numerous experiments on the cadaver and Winslow congratulated him on the ease of his technic, his precaution and promptitude. Other researches were also undertaken by Thibault, surgeon to the Hôtel-Dieu, and although holding this operation in considerable esteem he renounced performing it for the reason that he was more familiar with the greater apparatus. Winslow, who worked with

him, was convinced of the superiority of suprapubic cystotomy, and he says that he would unhesitatingly resort to this operation and prefers it not only as an ordinary one, but to that of Professor Rau.

Already, in 1727, Ledran proposed making a transversal incision into the bladder after having made a longitudinal one into the integuments, and further on I shall refer to his work again.

It was Morand, surgeon to the Hôpital de la Charité, who was the first in France to resort to the suprapubic operation. He was fully conversant with the writings of the English surgeons, and their operative results were quite sufficient to hold his attention. Like Thibault, Winslow and Ledran, he undertook experiments on the cadaver, but nevertheless he did not dare to undertake the operation. The ease of the operation, its advantages and its novelty in France caused him to be a warm partisan of it, and in 1728 he published a very learned volume on suprapubic cystotomy, but, what is most curious, at this date he only relates two instances in order to support his conviction, one being an operation performed by himself, and one undertaken by Berrier at which he assisted. His work is undoubtedly the most important on the subject published in France. Morand exposes *in extenso* Franco's case, then he gives extracts from Rousset, Douglass and Cheselden and a translation of Middleton and Macgill and an account of the operations performed by Thornhill. He states that the only reason he has not undertaken the operation is because no occasion presented itself. But this statement appears to be in absolute contradiction to the recital given by Morand further on when he operated in spite of himself. He was waiting for a favorable opportunity to perform the operation when a patient came who himself demanded that this operation be done upon him and Morand says that he stated to the patient that this method was not employed and that he had never performed it, but seeing that the patient was firm in his resolution he undertook it.

From all this it is evident that Morand is possessed of little merit in having performed the operation, but he was cute enough to gain great credit by it and to proclaim that this method was superior to others. He had the ardor and the enthusiasm of a timid person on whom one forces the hand and who discovers very suddenly a large number of new and original ideas.

This famous operation took place in the month of May, 1727, in other words, eight years after the first one performed by Douglass. The patient was an invalided officer, by name Duprat, who was sixty-eight years of age, with one side of his body paralyzed. Therefore, there was nothing particularly engaging in this proposition for the operator, but it was the patient himself who demanded that the operation be performed. Morand goes on to say that "I was very surprised when he declared that he wished absolutely to be cut high after the English fashion; these are his terms. He persisted in saying that he would not be cut in any other way and that he hoped to recover. I

wished to know what reason caused him to be so positive in favor of this method. He replied that he had seen in an affair, an officer who received a pistol-shot in the bladder, that he had observed the urine come out by the wound and that by good care this officer had recovered perfectly." And it was this wounded officer which was the cause of the first suprapubic cystotomy in France!

Morand gave in to his obstinate client, all the more so because he found an occasion to distinguish himself and increase his reputation at little risk. Therefore, he invited Winslow and Boyer, physicians, and La Peyronie and Guérin, surgeons, and a large number of assistants, to witness the operation. I will now give in his own words a description of the operation: "I had the patient placed on the bed in such a way that the chest was lower than the abdomen, the head lower than the chest, the thighs higher than the abdomen and the legs hanging over the bed and tied at the knees to the bedposts." The bladder was then filled with hot water and the penis was held down towards the anus and pressed so that the liquid could not escape. "I placed myself on the right side of the patient, I made with an ordinary straight knife a longitudinal incision four fingers' breadth in extent into the skin and fat of the hypogastric region; this incision extended downwards to the pubis on to the root of the penis; as I cut with my right hand, the index finger of the left hand followed the knife, by which means I was guided as to the extent of the incision; I then incised the linea alba by a second incision parallel to the first, but shorter both above and below; when I had cut the aponeurotic fibers of this part down to the pubis, I felt under my finger the distended bladder; I recognized the fluctuation to the extent of two fingers' breadth; I then laid aside the straight knife and took up a curved one, and at the tip of the index finger of my left hand I pushed the knife into the body of the bladder, cutting very rapidly downward towards the pubis; I expected that as soon as the bladder was entered it would suddenly collapse when the injected liquid made its escape, but as the index finger of the left hand did not for a minute leave the instrument conducted by the right, as soon as the opening was large enough to allow my finger to pass I introduced it into the bladder and held the organ suspended, so to speak, in order to surely complete my operation.

"My incision in the bladder appeared to me about two fingers' breadth, the injected water escaped rapidly; I only laid aside the curved knife and, thanks to the water which continued to escape, I introduced the thumb and right index into the bladder towards the neck and withdrew very easily with the fingers a stone whose surface was rough, oblong in shape, the size of a large walnut and weighing five scruples; I then introduced the same fingers into the bladder in order to ascertain if there was another stone, but I felt neither stone nor gravel.

"From the first instant of the operation up to the time of the placing of the dressings, the

operation only lasted two minutes and a half, a fact which was noted by two different observers."

The patient was bled on the day of the operation and on the next. The dressings were frequently changed, but on the eighteenth day following the operation the patient threatened everybody, and being very restless much blood was passed by the penis. On the other hand, as the patient ate voraciously, he was taken with diarrhea and succumbed forty-four days after the interference. The autopsy was performed in the presence of Winslow and Boyer, physicians, and Bouquet and Houstet, surgeons. "It was easily recognized that the incision into the bladder in no way communicated with the abdominal cavity; one could not perceive at the posterior part any vestige of a cicatrix; I only recognized it in cutting the cellular tissue of the membrane covering the bladder anteriorly under the pubis, with which membrane the bladder had become intimately adherent at the point of the cicatrix, and there its tissue was a little bit harder than in the natural state."

I would also point out that no pus or infiltrated urine was discovered anywhere and that in reality Morand was unable to discover the cause of death, and it would appear that it was in no way due to the operation itself. I assume from the description of the patient following the operation that he was a subject of some renal lesion, probably pyelonephritis, and that the cause of death was uremia.

Although Morand's tentative was unsuccessful, the history of the case resulted in the fact that other surgeons, by witnessing the technic, undertook the operation. Six months later, Berrier, a surgeon of Saint-Germain-en-Laye, undertook its performance on a child four years of age. It was rendered more laborious on account of the crying and movements of the child, but on the thirtieth day following recovery was complete.

As the conclusions arrived at by Morand point out the same advantages as those indicated by Douglass, I will not quote them. I will only say that he is inclined to believe all stones should not be removed by the suprapubic route and that the operation should be reserved for thin patients with a large bladder and without ulceration of the organ.

Although Morand held an extremely high position as a surgeon in France, it is astonishing to see how few lithotomists adopted his teaching. A surgeon of Montpellier, by name Rameau, published in 1729 a reply to the above-mentioned surgeon. The general character of his work is that of a man of letters who knows how to remain within the limits of a decent polemic, but it is evident that the writer has a tendency to annihilate Morand's merit, which, according to his way of thinking, was not the first to operate, and gives the credit for this to Pibrac.

In 1730 Ledran published his work on the various ways of removing stone from the bladder, and it may be said that he has accomplished this in a truly scientific way. He had had no personal experience with suprapubic cystotomy, and he

simply exposes the theories which appear to him good without trying to impose them upon his readers. He points out that if the bladder is large and the stone voluminous, the suprapubic incision is the proper one to adopt, and that under these circumstances it is excellent because the urethra, neck of the bladder and its orifice remain intact, that the prostate is not lacerated, split or injured, as it is in Cheselden's operation, and in the greater apparatus which may be the source of fistula; that the wound in the bladder may easily close like any simple wound, especially if it is made at a point where, after the operation, it will not become moistened by the urine.

From his numerous experiments Ledran considers that a transversal incision of the bladder is easy to make and excellent for the patient. However, writing to Morand on Nov. 8, 1727, Winslow does not approve this change, although it appears to him well thought out when one takes into consideration the retraction of the vesical walls behind the pubis, and he says: "I am unaware if in the living the transversal incision of the bladder can be made without violating the cellular tissue, and I should fear that two wounds which cross each other in different layers would not give sufficient space through which to withdraw the stone."

I would point out that Ledran is a mild partisan of the suprapubic route, giving his preference to the greater apparatus which he had always resorted to.

It would be too long to enter into further details of suprapubic cystotomy, which was finally more or less given up after Cheselden gave to the surgical world his new technic of the perineal operation. Then again, the suprapubic incision was finally given up by its partisans, among others Samuel Pye and Sermès in Holland. The latter was so unsuccessful with it that his right to practice surgery was taken away from him.

Cheselden, the first to follow Douglass' example, very happily improved upon the technic invented by Frère Jacques, and he obtained such an enormous success that he resorted to it exclusively. Then Morand, always in quest of new operations, came to see him operate and returned to France full of enthusiasm, and, like Cheselden, he gave up the suprapubic technic of Douglass. The lithotomists hastened to follow his example because they thus reached the bladder by way of the perineum and no longer feared either tradition or the peritoneum, which was their constant terror. Cheselden's operation then became the only one employed and hardly any writings appeared which timidly defended Rousset's theory. Alone, Pallucci, of Vienna, one of Morand's students, wrote a few original pages on this subject.

Franco's operation appears to have been completely forgotten when the eminent lithotomist Frère Côme dared to again take up experiments and then to undertake the operation. From 1758 his successes followed each other rapidly because in performing the operation he was very prudent and was possessed of a very scientific mind. He formulated its indications and, according to the

case, resorted to the perineal or suprapubic incision. He invented a number of special instruments suitable for the suprapubic work and thus diminished the dangers resulting from inexperience or awkwardness of surgeons. He operated on a hundred patients and then published *in extenso* the histories of each one.

In 1775, Leblanc attacked Frère Côme with violence and reproached him for his cumbersome instrumentation. He simplified the operation and thus returned to the ideas of Rousset and his imitators. Finally, Deschamps, a most remarkable surgeon, wrote a very important work on the subject. He adopted the operative technic of Frère Côme, but he further limited the indications of the operation. He is evidently and above all a partisan of Cheselden's operation and he endeavors to resort to it as often as possible.



To sum up, it may be said that although Franco had the fortune to first perform suprapubic cystotomy, it is to Rousset that the honor should be awarded for having made it an operation, to have described its technic and the indications. Douglass was only indirectly inspired, while Morand simply has the merit of having followed the former's example, and it is unquestionably Frère Côme who gave to the surgery of the urinary tract a most precious operation, whose technic at the present time, except for a few details, has not been improved upon.

**ANIMAL PULSE RATES.**—The average pulse rate per minute of the bear is 33, of the lion and horse 40, of the fox 43, of the wolf 45, of the tiger 96 and of the eagle 160.

## FREUD'S PSYCHOLOGY AS APPLIED TO CHILDREN.

BY W. E. PAUL, M.D., BOSTON.

YOUR president did me the honor of inviting me to tell this Society something about Freud's ideas in their relation to children. My first duty to you all is to apologize for attempting such a task with a marked lack of acquaintance with the subject. Yet that may have its compensations as there may be less likelihood of my talking over your heads, and my own also, perchance. So if those who know the subject thoroughly will be considerate of us who are beginners in Freud's psychology, we will try to reduce our deficiencies.

Sigmund Freud is professor of psychology at Vienna. He is about fifty-five years of age. From his records and observations he has elaborated an explanation or interpretation of psychic phenomena in various pathological and abnormal mental states or phases. Moreover, these theories of Freud's are new and original, so that, as Brill states, "he has evolved not only a system or psychotherapy but a new psychology." "Unlike all other investigators, he discarded generalities and confined himself to the individual." (Brill.)

The psychology of the individual is perhaps most important from the therapeutic point of view, but by no means signifies that general laws are not deducible. One law or generalization is at the very base of all the psychology and psychotherapy as interpreted and elaborated by Freud, namely, that none of the nervous phenomena of individuals can arise *de novo*, but is a sequence of some episode, event, experience or so-called psychic trauma in the course of the conscious life. No doubt you all in a hazy general way have felt psychic events come from some experience or other, but Freud has gone deeper to the real *fons et origo* of the psychoneuroses and the varying mental variables they include.

The hysterics in 1895 first received attention from this point of view in studies by Breuer and Freud. The varied stigmata were traced back to their beginnings in the life of the individual, and the events, or the one event, around which the whole complex was developed was brought together under hypnosis to the light of consciousness and conscious memories. This original cause is usually a so-called psychic trauma or a series of similar psychic traumata. Somehow or other such traumata with attendant feelings aroused by them persist and color the conscious life and feelings to the point even of dominance. The trauma and effects of it are held in the memory so that "the hysteric suffers mostly from reminiscences." But while we witness the hysterical expression and action, by no means do we get any hint of the originating factors. Those are kept in the inner life and thought wilfully or exist in the subconscious, unconscious or less conscious stream of psychic potentials.

Even after such a brief description with an effort to keep to simple facts, questions un-

doubtedly rise in your minds as to how the psychic trauma is discovered; and how does it happen that good effects on the individual, or even a cure, are attained.

The art in using the Freudian psychology practically lies in the matter of uncovering, or dragging out of the individual's memories, the primal psychic factors called the psychic trauma. In reading individual narrations at times my own wonder has been divided between the ingenuity of the investigator and the alleged psychic history. Here I must use one of the terms adopted by Freud in his earlier work, a term which is applied to the method of getting psychic records from the individual memory. Catharsis, it is labeled. Hypnotism was resorted to in the cathartic method for treatment; and reassembling of the events of the psychic trauma with the emotional accompaniments, in the hypnotic state, resulted in a cure.

But not all cases could be hypnotized, so the individual's memories were sought while he was conscious. This latter method of getting the facts of the psychic trauma is called psycho-analysis, but psycho-analysis is of cathartic quality, though the latter term is more in keeping with the general nomenclature of psychology.

In psycho-analysis the operator has continuously to encourage the patient to tell what comes into his mind, and Freud found he was meeting a great deal of resistance, so that he wrote, "Through my psychic work I had to overcome a psychic force in the patient which opposed the pathogenic idea from becoming conscious." (Brill.) This resistance was due to the painful emotional accompaniments aroused by the thought of telling these repressed memories. Then, too, memory is not a mere mechanical act, as one in some measure lives over again the painful actualities remembered. So it often happens that individuals will not disclose the facts; the unpleasant feelings which are painful, unbearable or disagreeable, are kept down, or at bay, or, as Freud says, are repressed. This repression is a device for escaping from what the individual does not like; he will not let it come to complete consciousness by narrating it in full. Really this is a "reminiscence" and may at the moment of repression be converted into some entirely new motor or sensory phenomena by "conversion," as into a hysterical symptom. Thereafter the unconscious memory when revived along the true series at this point deviates to this hysterical exhibit which is said to symbolize the original, repressed, episodic events. From such interpretations of the genesis of psychoneurotic symptoms we can appreciate the difficulties of psycho-analysis in the Freudian sense. By way of emphasis let me, however, restate that Freud did not form his hypothesis first, but he worked out his results from study of recorded facts and repeated experiences.

By no means are we to understand that hysterical phenomena are the only symptoms aroused or developed at that psychic stage in which repression from conscious memory of the facts of

the psychic trauma prevail. Other varieties of nervous symptoms, at times exceedingly complex, are exemplified in the wide range of psychoneurotic complaints and even in the psychoses. These psychoneurotic symptoms are thus symbolic; that is, the effects of the psychic trauma are really being manifested by these psychoneurotic symptoms, or symbolized by them. The art of the psycho-analyst is to uncover the real psychic series behind the symbolism.

The psychic trauma is referred to as a "foreign body" in the mind, and it exists "parasitically." Also Freud uses the term "psychic censor," thus in a way personifying the mental process at the point where the real memories of painful character are inhibited and symbolic expressions or other substitutes are presented.

During waking consciousness the repression and resistances to free disclosure verbally of the true facts of the psychic trauma are more powerful than in sleep. "During sleep they partially slacken and the repressed material comes to the surface in the form of dreams." (Brill.) Perhaps no part of Freud's psychology has received more attention from critics than his interpretation of dreams; also it is probably true that Freud's followers value most highly, especially in psycho-analysis, his ideas on the significance of dreams. Dreams often are the key to the psychic complex. The dream is nearer the unconscious or repressed self, and the narration of a dream leads nearer the goal. But the investigator of dreams has to be very ingenious, for the dream symbolizes the essentials more than any other psychic events. So in referring to dreams Freud separates the dream psychologically into the manifest dream and the "latent dream thoughts." The latent element is said to represent invariably the fulfillment of a repressed wish. On waking, the manifest dream is the one narrated, and the psycho-analyst has to interpret this manifest dream into the hidden dream of which the manifest dream is symbolic; so that what is fundamental in the dream is not what you recall and tell about, but something repressed and changed into the manifest dream. I surmise that there is great opportunity for the psycho-analyst to go astray at this point in translating the dream, and that the manifest dream may comprise all that the dream really contains. It is, however, well to remember that Freud is discussing the dreams of a psychoneurotic.

In dreams, a contact with infantile life is approached as the "wish which incites the dream may be of infantile origin, and the psychic forces of the dream are due to infantile, unintentional repressions." (Brill.)

Interpretation of dreams is the *via regia* to the interpretation of the unconscious, the surest ground for psycho-analysis, and a field in which every worker must win his convictions and gain his education. If I were asked, writes Freud, how one could become a psycho-analyst, I should answer, Through the study of his own dreams.

But what does all this psychology have to do with psychotherapy? How does it accomplish

the remarkable cures? The answer to these questions is more a statement of the fact that results are obtained than an explanation of the exact *modus operandi*. Freud simply found that if the individual hysteric or psychoneurotic could be made to realize in consciousness all the hidden and repressed memories, with their painful emotions, the values of these in the psychic life were changed. The foreign body was removed and troublesome symptoms disappeared, never to recur. As it were scales fall from the eyes and the whole psychic series is seen intellectually, and not through the distorting natural emotions peculiar in quantity and quality to the individual sufferer. The relief is likened to the ease of mind experienced by a child in confessing to his mother, or of elders to one another. It is a "cleansing of the soul."

It is impossible to recount all of Freud's ideas and applications of his psychology. Likes and dislikes, inability to remember familiar names or words, unreasonable prejudices, the mechanism of jokes and many commonplaces of life on the individual and social side are taken up and elucidated by Freud. Further, the psychoses are being approached along Freudian lines and occasional dramatic cure are recorded.

So far I have avoided reference to one element associated with Freudian psychology and regarding which probably most of you would at first blush condemn him. I refer to the place given sexual ideas, experiences, symbolisms, conversions, repressions, etc., as the chief origin of psychic traumata. In dreams, too, the unfulfilled wish is something sexual. The manifest dream symbolizes some sexual events which is the latent dream or repressed wish.

Freud's ideas of sexual are very comprehensive and as broad as the English "love." The coarse accompaniments are not the ones taken into account altogether.

Freud asserts that the sexual is born with us and begins to manifest itself in infancy. The child has sexual feelings before puberty and may suffer from sexual experiences with others older or of his own age. Sexual traumata are experienced by some children. I dare say most of you gentlemen can recall easily many children who have manifested sexual excitement in early years.

Let me quote from Freud's lecture: "The early sexual pleasure is found in the child's own body and is 'auto-erotism.' Thumb sucking or passionate sucking are examples of auto-erotic satisfaction from an erogenous zone. Early in the life of the child the impulse components of sexual pleasure which demands a second person as its object may exist. The differences between the sexes play, however, in the child no very great rôle.

"The sexual life of the child in which each impulse goes about the business of arousing pleasure independently of every other is later correlated and organized in two general directions, so that by the close of puberty the definite sexual character of the individual is practically



determined. . . . Object choice now prevails over auto-erotism and all components of the sexual impulse are satisfied in the loved person. But before puberty certain impulses have undergone energetic repression under the impulse of education and shame, disgust and morality are developed which, like sentinels, keep the repressed wishes in subjection. The desirable normal sexuality comes on in due developmental time; or persistence in later life of the child of sexual impulses may lead to sexual perversions."

"The child takes both parents, and especially one, as an object of his erotic wishes. Parental tenderness has the character of sex manifestation, though inhibited as far as its goal is concerned. The complex built up in this way with its ramifications presents the 'nuclear complex' of every neurosis."

A little attention to the difficulty of talking to boys and girls about sexual matters, even with your own children, will, I am sure, furnish a sort of parallel to what goes on in the inner individual mind. You all shirk doing it, or omit entirely the doing of it, converting, indeed, your intention to do one thing into doing something entirely different. Indeed, when you come down to facing the subject either in your own inner thinking and feeling about your unpleasant sexual experiences, or in preachments to your children, you literally run away from the pain and discomfort of what takes on the proportions of an ordeal or conflict. And as before explained, the methods of escape are varied.

The notable fact in Freud's estimate of the origins of psychic traumata and of dreams is that sexual factors predominate, or are universal. "In hysteria, Freud came to the conclusion that it is the result of a conflict between the *libido* and sexual repression and that the hysterical symptoms have the value of a compromise between both psychic streams." (Brill.)

"In view of the fact that the sexual impulses play such an important rôle in our life, it is but natural to expect that they also are present in the repressed material." (Brill.)

The period of child life in the Freudian psychology is largely that of the beginnings of psychic events that later develop into hysteria, obsessions and complexes of psychoneurotic character. Not that psycho-analysis always delves back in adults to the child stage by any means, but some elements of psychic trauma always date from early life. It is hardly necessary to remind this society of the emotionality and impressionability of even very young children. Their imaginations are active and memories retentive. Their feelings overwhelm them, and careful parents soon begin most harmfully to impose restraint and teach the child to react artificially, instead of naturally. Information is withheld and mystic fancies rouse emotions with complex potentialities. Repressions are grafted on to their behavior, and the children begin psychically to take on the characteristics of their environmental associations. For example, the mother's fear of a thunderstorm is instilled into the child. In a thousand ways the

child is subjected passively to molding psychic forces almost beyond analysis.

Not every child is affected harmfully to a degree that makes of him later a candidate for psycho-analysis. By far the large majority get through childhood and later life always maintaining a stable psychic equilibrium. The nervous child with psychopathic tendencies is the one with possibilities of being affected harmfully.

"It is a cardinal point of Freud's doctrine that it is the experiences and repressions of childhood, when fact and fancy, untaught emotion and newly arisen moral sense yield strange conglomerations of motions and emotions to which we are to look mainly for the origin of the mental twists which terminate in neurotic illness." (Putnam.)

Most prominent in the child's psychic life, as giving origin to psychoneurotic symptoms in later years, are sexual experiences of a most varied sort of abnormal character. "In tracing the psychic traumas which are supposed to be the basis of hysterical symptoms or compulsion neuroses, one invariably comes to sexual experiences of childhood." (Brill.) Conversely, Freud states that "in a normal *vita sexualis* no neurosis is possible." Granting the truth of the last statement, the importance to the psychic health of avoiding sexual accidents of abnormal character, and meeting the normal in a way not to develop abnormal accompaniments, can hardly be exaggerated; in fact, the statement suggests that the complete recipe for rearing a child with neurotic tendencies should be, "Preserve a normal *vita sexualis*."

You will recognize that sexuality is a very complex subject and that it is the mental attitude toward it, or the mental conflict that is under consideration rather than any bodily effects of sexual happenings, or the sexual excitement in itself.

The dreams of children are given a place in Freudian psychology, but are not so complicated in their symbolism as in later years. The dream, nevertheless, is stated to contain a wish fulfillment with a child, but it is a more direct or unsuppressed wish. If he wishes to drive a horse he dreams directly that he does drive a horse. If, however, he grows old and he is constitutionally neurotic he wishes for something he feels he ought not to have and crowds the desire out of consciousness, or fights against thinking about it, or he relegates it to the unconscious field, or less conscious,—then he may have dreams that circuitously or symbolically represent his wish. But "these distortions are not accidental but have a reason." (Brill.) The interpretation of the dream's significance is attained by discovering the latent wish and all the paths by which it is assembled in the actual dream.

"It gradually becomes clearer and more clear that the gaze of the investigator must be directed with great and ever greater insistence on to the very earliest years of life as the time when the seeds of mischief are sown, the marvelous period when tendencies of reaction and anti-reaction

are laid down, and paths of least resistance established, which may give a set or bias to all the long years to come." (Putnam.)

In all the foregoing the attempt has been made simply to tell you some of the Freudian psychology. There is nothing original. Criticism is not attempted because it would confuse; and I feel that I ought to be much more conversant with the ideas of Freud and his colleagues before assuming any ability to judge of their values. Those who have practiced his methods and studied his theory affirm that the further they go, the more reason they have for accepting his postulates.

Critics there are who seem to devote most of their remarks to Freud's ideas on sexuality and dreams. Some of these critics are hostile and radical. Of them the Freudians remark that their talk is, after all, symptomatic and symbolizes a repression and mental conflict regarding some psychic trauma in their own unconscious field.

The method of carrying out psycho-analysis is simple, but its application is difficult and requires patience and persistence often over weeks and months. Freud proceeds as follows: "The patient lies on a lounge, the physician sitting behind the patient's head. The main object is to avoid muscular exertion and distraction. The patient is asked to give a detailed account of his troubles, having been told to tell anything that comes into his mind, even things that may cause embarrassment or mortification. One notices many memory gaps; the patient is urged to fill in these gaps by concentration of attention. In this way it is possible to overcome all resistances, and give the unconscious access to the conscious." (Brill.)

Many, however, who follow the psycho-analytic method approach the patient as they would any other.

In conclusion, I would like to express a tentative estimate of the values to the pediatrician of an acquaintance with Freud's ideas. Understanding of the child's motives and feelings will be broadened; behavior will be interpreted more reasonably and correctly; fundamental origins will be appreciated; the self-conscious child will be rarer; in a word, a most useful chart is supplied with which to direct earlier and later child life.

The use of psycho-analysis in the early child life exceptionally will find application; but the chief value of Freud's psychology seems to me to be as an aid in understanding the problems of the child's psychic life and giving rational advice to meet them.

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## MEMORIALS TO OLIVER FAIRFIELD WADSWORTH, M.D.\*

## I.

BY CLARENCE J. BLAKE, M.D., BOSTON.

OLIVER FAIRFIELD WADSWORTH exemplified the value of a strict inheritance and the power incident to an individual training. That which came to him through his parentage was the outcome of those conserved virtues which put sacrifice before possession and the just balance of affairs before personal consideration, and the modest records of the work which he has left behind him bear the stamp of that infinite attention to detail and that accuracy of statement which made the Wadsworth name a synonym for reliability, in title deeds and surveys, for more than three quarters of a century. That his training, upon the basis of his inheritance, was both individual and intimate was shown by his choice, after graduation at Harvard, of an almost untried field of endeavor, and his departure from accustomed and friendly surroundings to make such place for himself as might offer in a then new country.

What it did offer was an opportunity for the application of his initiative, and the story which he sometimes told, upon urging, of his journey westward, by primitive conveyance for a large part of it, of material conditions as he found them, and as he endeavored to make them, illustrated his perseverance, his readymindedness and his ability to illumine dark places by a gleam of humor. For nearly two years he held firmly to the proposition, since become familiar, of irrigation, and of construction of a canal, in which he himself labored. It required courage to make a new venture in an almost untried country, and courage to prove out the endeavor, but all this was a part of the self-training, as had been the athletics in college, affording him, moreover, the joy of disputing the command of conditions and of applying his sense of humor as a savor to the appreciation of the hard facts of the day.

With the Denver experience behind him he had satisfied two appeals; the one, the desire to be a participator in the new life of his country, to adventure something of himself, possibly, in its behalf; and the other, to satisfy the wholesome appetite for activity which was displayed, in one form or another, throughout his sane and kindly life. These aspirations fulfilled, he turned to his deeper desire and began the study of medicine.

At that time the study of medicine was a much more simple and less exacting matter than it now is; the instruction was largely didactic, with repetition of the same lecture in succeeding years; the teaching of pathology was macroscopic; the clinical teaching was comparatively unclassified, much of it had to be derived from private sources, and the specialties were only then coming into being, but the country was knocking at the doors of the medical schools and demanding that

\* Read at the meeting of the Boston Society for Medical Improvement, Jan. 22, 1912.



the young men should come out into the service of the Civil War, and such as had the fortune of a house officer's training in the hospitals were eagerly taken and put immediately at work.

Of these Dr. Wadsworth, with a short preliminary training in the service of the United States Sanitary Commission, was one, and he went almost directly from his graduation in medicine, in the spring of 1865, into the field as an assistant surgeon in a cavalry regiment. In July of the same year he was detailed for special duty at headquarters, Twenty-Fifth Army Corps, and remained in the service until the mustering out of his regiment, the Fifth Massachusetts, at the close of the war, being breveted captain in recognition of his fidelity to duty and the care which he bestowed upon the details of his work.

Of this impressive period there remain only the bare copies of consolidated reports and of the more important documents belonging to his particular service, all that was necessary as memoranda of the duties of his office; nothing in the simple notebook, which contains them, of himself except what may be read between the lines. It was a characteristic of his modesty that he minimized the value of any contribution of his own to the general welfare, preferring, as speedily as possible, to direct attention to the general issue of which it was a part; and of his magnanimity that he was ever ready to put the best possible construction upon the words and deeds of others unless the word or deed betrayed untruth, meanness or injustice; then, indeed, he became active and the mental vigor and quickness of thought which found outlet for their surplus energy in friendly disputativeness swung into the forefront of any discussion in which he might be taking part; an untruth was inimical to the scientific tendency of his mind; a meanness was beneath him and an injustice was something which he could neither permit nor condone.

Of his entrance into special practice in medicine, after the Civil War and after the necessary preliminary training abroad, and of his achievements therein, there is another speaker to-night who can best bear due witness, but in all his relations with the hospitals he served, with the patients who came under his care, with the medical societies of which he was a member, the same dominant characteristics, trained more and more to their uses, were observable in him.

From the time of his return to Boston his has been a long and multiform service, coupling hospital practice with teaching, and active teaching with a large contribution, on his part, to the conservation of medical literature and the furtherance of medical education through the medium of this Medical Library, of which he was secretary from its beginning, and later, clerk of corporation until he retired from duty in consequence of the physical disability which was calling upon him to face the preparation for another journey out into an unknown land. Pain was a part of the preparation, but the courage marking the vigor of his youth was still his in an exalted and refined degree; it was still the property of a

man who may have been said to have died young, so conserved in him were the characteristics with which he began his truly fruitful career: probity of mind, exactitude, the love of truth, the hate of lies, the desire for service and last but not least a truly affectionate disposition which found constant expression in kindly words and helpful deeds.

In a last interview, shortly before his death, except the mortal stigmata of physical suffering, there were no signs of the change recognizable to his own keen mental vision, so soon to come, — the smile, the friendly word, the message of love to the little circle of friends, many of whom had been his classmates in the Medical School and had come, with him, to sit upon its faculty, the firm hand-clasp, were all a part of the youth, strong, brave, true, gentle, whom we had affectionately known; the circle of his life was complete; it had made its own chapter.

## II.

BY JAMES J. PUTNAM, M.D., BOSTON.

WHENEVER I try to think of Dr. Wadsworth — always a pleasant task — my memory turns so strongly toward two localities that it is only with an effort that I direct it elsewhere. One of these is a camp in Keene Valley, among the Adirondack Mountains, where a company of friends gathered, summer after summer, for many years; the other, a small room in the old Out-Patients' Department of the Massachusetts General Hospital, where for many years I held a daily clinic. Let me speak first of a single set of associations connected with this latter place.

If there was anything more characteristic of Dr. Wadsworth than his power of long-continued, unembarrassed silence, it was his love of speech and power of argument. He certainly had some of the qualities that open the way to easy, delightful and even voluminous chattiness, namely, good health and spirits, the love of truth, a universal friendliness that caused him to be as ready to exchange talk with one person as with another, and a keenness of mind which made the use of that instrument a genuine source of pleasure. Best of all, he was singularly free from the inhibitions that attend concealed thoughts; it cost him no effort to speak the truth as it appeared to him.

This pleasant love of chat, which could lead easily into a discussion of parabolic length, led at times to curious results. His hospital-room was over mine, and when his jobs were finished first, as often was the case, his care-free and smiling face would frequently present itself at my door, usually on the ground that he wished to get or give information about some patient. Then the curtain would go up on a dialogue, always interesting to me, but often running into lengths which might have been called unexpected, were it not that repetition had made them readily predictable. I have distinct visions of myself, with reference to these occasions, as standing — an electrode perhaps in my hand, and the bared

back of a patient waiting for a treatment, in full view — sincerely enjoying the good-humored and exceedingly edifying battle of words, but not daring to assume an attitude of greater relaxation, lest the moments of respite stolen from pressing work should run on into large fractions of an hour. To hurry him was impossible, and I am now sincerely glad that this was so; for if I learned to have a cheerful fear of his love of thoroughness in logical demonstration, and the completeness of his sense of being at leisure when he was at leisure, I learned also, through these visits, to become aware of the deepening of the furrows of a cherished friendship, on every feature of which I look back with unalloyed delight.

It was, however, above all, amongst the lovely forests and hills, and in the informal, eminently sociable, life of the Adirondacks that Dr. Wadsworth's traits showed out to best advantage, endearing him ever more and more strongly to the friends who had the good fortune to be with him there. There was perhaps no one of the many regular visitors to that upland clearing of happy memories, enclosed and closely bordered by brooks, deep woods and mountain spurs, who expressed himself less effusively about its pleasures, and yet enjoyed them more. Certainly there was no one whose coming was more hopefully looked for; and after he had slipped silently into his accustomed little room in the old farmhouse, and had been seen lounging about in his gray flannel shirt and long stockings, with his quiet, good-humored smile and the cigar that disputed with his pipe the right to be considered as his most constant friend, it was felt by everybody that the halcyon time of careless holidays might fairly be considered open. He appeared, under these conditions, one of those persons who, while always unobtrusive, make their presence seem almost indispensable. You could not bore him by too much conversation, nor drive him by any amount of silence into ennui. Fond of comfort as he was, and even of luxury of the simpler sorts, neither the hottest nor the coldest day, the steepest climb, the longest walk, the plainest fare, drew a complaint from him.

"The trout, the grouse, the early pea,  
By him, if there, were freely taken;  
If not, he munched with equal glee  
His bit of bacon."

His daughter told me one day, when speaking of his patience during his last painful illness, that this was the more striking for the fact that as a younger man he was thought to be exceedingly impatient. I can indeed believe that this latter characterization was true, from the occasional flashes that appeared from time to time on the background of his habitual equanimity, just as it was true also that his simplicity and his abundant modesty were well set off by occasional exhibitions of almost childlike pleasure at his very frequent successes over others; but, in general, a less often ruffled person would have been hard to find. The "Early to bed and early to rise" and "Do not touch tobacco" maxims had a

severe testing at his hands. And not to their advantage, for he was eminently wise in mind, and healthy in body, a natural athlete, with clear, white skin and long, gracefully tapering muscles, lending themselves readily to the service of his will in every form of exercise, and in the use of tools.

Breakfast is a movable feast at this pleasant retreat, and Dr. Wadsworth always took his later than any one else — unless some long expedition was in prospect — and so usually alone. At his own time, after this function, he would appear quietly in the midst of a busy group of laborers at the work-shop — smile on face, cigar or pipe in mouth, his bread and coffee in process of undisturbed digestion, not in the least troubled by restless stirrings of a New England conscience. Then, after sitting about for a time, casting pleasant jests around, he would take up some job of wood-working, or stone-moving, and in carrying it out would display great ability, originality and good-will.

In mountain-climbing, as in all other enterprises, Dr. Wadsworth had his own ways and was supreme in following them. He generally started considerably later than the others, and almost always arrived earlier, earning for himself by these habits the name of "painter" — vernacular for "panther." This meant that he could walk fast, and did not mind walking alone, and that he made record times. Once at the top, however, he would be as sociable as anybody, and no one was more ready than he to take a child or weaker member of the party under his protection. With children he was indeed always the best of friends, as is usually the case with sincere, really genuine persons.

It has long been with us a common custom, when the working or walking day is over, for the entire company, old and young, to gather around a campfire, and sing songs or tell stories until late into the night. It is phenomenal how, on such occasions, — so great is the power of sweet associations, — the same song, the same old yarn will pass current night after night, year after year, arousing perennially the same bursts of applause, the same peals of hearty laughter. Dr. Wadsworth's invariable contribution on these occasions, besides a good bass in a chorus, was the singing of that familiar ditty "The King of the Cannibal Islands," which he has trolled, I imagine, several hundred times, always with ample recognition from his audience, at the right moment.

But the evenings and the rainy days afforded other entertainments besides campfires, and to the success of these Dr. Wadsworth's kindly good humor, his power to entertain himself, his readiness to help in entertaining others, lent a special element. Although he loved reading, and would get through book after book before the open fire, especially as the night wore on towards morning, yet he was always ready to lay his volume down for a talk over its subject matter, or over the politics or public interests of the day, or for a game of skill. In these latter he excelled, as he did in climbing, in the use of carpenters' tools, of the tennis racket, the golf stick or the axe,

and, indeed, in all employments calling for coolness, muscular skill and judgment.

It would be easy to carry these remarks further, and far into the realm of personal reminiscence, but I have said enough to remind you that all who knew "Ollie Wadsworth" well, knew well that they had in him an unassuming, ever loyal, ever appreciative friend, courageous, gentle and full of that best sort of refinement which plays its part without exciting any one to designate it by a name. It is a pleasure to recall that he was able to continue these Adirondack trips — which began, I think, in 1875, and were repeated almost yearly — and even the high-mountain climbs, until within scarcely more than a year before his death.

### III.

BY MYLES STANDISH, M.D., BOSTON.

DR. OLIVER FAIRFIELD WADSWORTH was a learned man. His mind was an encyclopedia, or rather, a mental digest of the world's ophthalmic knowledge as printed in books.

As a scholar in ophthalmology he had a great and deserved reputation, not only here in Boston, but everywhere throughout the country.

Proven facts never escaped him and could always be produced, with the date and place of publication whenever they were needed in a discussion. The list of papers published by him is not long as compared with many writers in ophthalmology, but in every paper the subject matter had been deeply studied and well considered before publication.

I have been able to find forty-two original papers. Of this number fifteen were upon conditions in the retina, choroid or optic nerve — ophthalmoscopic subjects.

Nine papers treated of various operative procedures. Four were upon anomalies of muscular balance, and four were papers of scientific original research.

His best known piece of original work was his description of the fovea centralis.

He was a man who always used great patience and persistency in the investigation of any subject in which he became interested. To see him at work in his clinic was an example to all his juniors.

Patient, systematic, thorough, exhaustive examination was given in every case which came before him, and the minute descriptive notes of his cases entered on the records are well remembered by those of us who have served under him in one or the other of the general hospitals. No thought of private practice ever abridged the time necessary for the fullest examination of every case in the morning's clinic.

It was as an ophthalmoscopist, however, that he was best known. His knowledge of the ophthalmoscopic picture, even in the rarest and most unusual conditions, was always clear, accurate and exact.

The patience with which he would sit down and examine, with the upright image, every portion of the fundus of an eye, studying again and again

each doubtful point, was the admiration and despair of his colleagues.

One of his contemporaries once said to me, "When Wadsworth has finished with a case there is nothing more to see. The lemon has been squeezed dry."

Those of us who work in the large ophthalmic clinics can always pick out the younger men who have grown up under his influence, which always made for thoroughness of investigation, accuracy of diagnosis and scientific calmness of judgment.

That he was widely recognized as an authority upon ophthalmoscopic subjects was evident whenever he rose in the meetings of the American Ophthalmological Society to speak upon a question in ophthalmoscopy. The room would become quiet and every one would listen attentively and with that respect which is always shown when a master of his subject speaks.

As an operator Dr. Wadsworth was cool, skillful and masterful. His operations were carefully considered and well executed. He was not given to hastily adopting new or riskful operations, but was always ready to promptly operate in every case that offered a good chance of recovery.

He taught many years in the Harvard Medical School, and taught even more effectively many more years in the hospitals of this city, and I speak in the name of the ophthalmologists of Boston —

Oliver Fairfield Wadsworth, sometime Ophthalmic Surgeon, Boston City Hospital. Consulting Ophthalmic Surgeon, Massachusetts General Hospital. Ophthalmic Surgeon, Massachusetts Charitable Eye and Ear Infirmary. President New England Ophthalmological Society. President American Ophthalmological Society. Williams Professor, Ophthalmology, Harvard University. The teacher of us all.

## Reports of Societies.

### NEW ENGLAND PEDIATRIC SOCIETY

The eighteenth meeting of the New England Pediatric Society was held in the Boston Medical Library on Dec. 9, 1911, Dr. JOHN LOVETT MORSE in the chair.

The following officers were elected for the ensuing year: President, Dr. James Marsh Jackson, Boston; Vice-President, Dr. Alexander C. Eastman, Springfield; Member of Council for three years, Dr. John Lovett Morse.

DR. WM. PEARCE COUES then demonstrated

- (a) A CASE OF FRAGILITAS OSSIUM WITH X-RAY PLATE.
- (b) FRACTURE AND DISLOCATION OF THE ELBOW. REPORT OF A CASE.
- (c) RADIOGRAPHS OF INTERESTING FRACTURES IN CHILDREN.

DR. W. E. PAUL read a paper entitled:

FREUD'S PSYCHOLOGY AS APPLIED TO CHILDREN.<sup>1</sup>  
DISCUSSION.

DR. I. H. CORIAT: I think that since Dr. Paul has given such a very interesting history of the application

<sup>1</sup> See JOURNAL, p. 526.

to children of the psycho-analytic method of Freud it might interest the society to hear a few of my experiences during the last few years with this method, particularly as revealing the sexual life of childhood and its mental conflicts. To employ the psycho-analytic method, one must clearly understand a certain fundamental principle of Freud's psychology, namely, that no train of psychoneurotic symptoms is accidental or due to chance, but is the result of antecedent experiences. Thus, the Freudian psychology becomes absolutely deterministic. The part of psycho-analysis that I find of the greatest value is the analysis of dreams, and in my psycho-analytic work I not only ask the patient to talk out freely what comes into the mind, but I get an account of dreams, and from these I deduce what has happened in the patient's past life, because dreams are merely symbols or distortions of the underlying mental states. Dreams are the easiest means of getting at early life experiences, and by dream-analysis one is enabled to trace out the very beginning of hysterical symptoms and obsessions back to the earliest life of childhood. This is done without suggesting to the patient any of the results desired. Therefore, the results obtained are purely spontaneous products, and their value and truth is shown by the absolute uniformity of results in various patients. The more I study the methods of Freud, the more I am convinced of their soundness.

In some cases, if the condition is of long standing, the psycho-analysis, while it enables one to get at the suppressed condition, does not cure and other methods must be used after the psycho-analysis is completed. The reason for this is, that an automatism has been formed.

All dreams, however, are not wish fulfilments, but a dream may represent a non-fulfilment of a wish as well as fear, anxiety and other mental conflicts. In hysteria it is not so much the psychic trauma which produces the hysterical disturbances as the repression of that trauma. I find that the dreams offer the most rapid and convenient means of psycho-analysis. But since dreams are mere symbolisms, the analysis, of course, depends upon the unraveling of this dream symbolism, a technic which can only be acquired by long practice. It is the interpretation of these symbolisms rather than a free confession on the part of the patient which is at the basis of psycho-analytic treatment. Sexuality exists in the earliest years of childhood, and certainly the results of psycho-analysis have shown that a wide range of normal and abnormal sexuality may long antedate puberty.

DR. G. L. WALTON: Dr. Paul has presented the subject with characteristic fairness and clearness. Among a mass of postulates he has indicated certain truths. Meantime he pertinently questions if all the deductions drawn therefrom by Freud and his followers are logical.

It is true that our life is full of desires and memories which surge to the front only to meet the restraining influence happily termed by Freud the censor. It is true that many if not all our morbid mental processes are outgrowths of past experiences. It is true that the sexual element is prominent in our development. It may perhaps be also true that our dreams are products of rudimentary and childish wishes, though I am inclined rather to view the dream as a series of old concepts newly assembled, their form and order depending more on our associative memories than on our wishes, repressed or unrepressed. But even granting such facts as these, I should query whether it follows that all morbid mental phenomena are the resultants of repression, whether there can be neurosis without sexual taint, and whether the apparently innocuous

dream always has a latent element and is symbolic of a wish. And right here, in connection with the difficulty the analyst is said to find in overcoming the patient's resistance, it seems pertinent to question whether the patient who relates his thoughts, dreams and experiences under Freudian urgency always reliably fills his memory-gaps, or whether the physician may not sometimes be analyzing the imaginative. Take, for example, the memory of a dream. I have been in the habit for some time, following the Calkin's method, of writing down for study, immediately on waking, such of my own dreams as are peculiarly vivid. There is a striking contrast between the disjointed fragments I can ever then recall and some of the finished products of Freud's dream-book.

It may be true, as Dr. Paul states, that Freud did not establish his hypotheses before making his observations; at the same time it does not follow that these observations, however numerous, are adequate to establish the hypotheses. Certainly, if his deductions regarding dreams are a fair criterion, I am by no means convinced that his conclusions are always well drawn. The following child's dream from his book will suffice fairly to represent his mode of reasoning: A child sleeps in a large bed and dreams he is in a tight place. Freud explains this dream on the assumption that the child wishes he were large, a reasonable enough assumption to start from, though rather inadequately based for close reasoning, namely, on Freud's assurance that all children have this wish. But Freud proceeds to analyze the dream as being so complete a realization of this wish that even the large bed is too small for the dreamer. This seems to me as fanciful as if an oculist were to claim that the dream resulted from eyestrain; indeed, it would appeal more to me if a rhinologist should suggest it might result from adenoids.

I am likewise unable to follow the reasoning which leads to the conclusion that the dream of crawling through a narrow space has sexual significance. That such an example of the Freudian postulate is characteristic, not exceptional, I need only mention the dream cited by the previous speaker; his patient dreams of seeing a lifeboat and hears some one say there is no chance for her. It seems to me an unjustifiable jump from premise to conclusion to assume that the lifeboat is symbolic of her wish for children.

Coming to the practical application of the therapy, even suppose the claims of cure are justified, claims, by the way, shared with many cults we hardly feel inclined seriously to consider, does not the method simply cure symptoms instead of relieving the underlying trouble? For I do not agree that Freud finds the underlying trouble when he unearths the psychic trauma that started the morbid process. He here finds only the exciting cause of a particular train of symptoms, the underlying cause being, as Dr. Paul has intimated, the psychopathic makeup of the individual that causes the memory of the trauma to persist, and, whether repressed or unrepressed, to become a factor in hysterical convulsion or other symptom, instead of being relegated into the bygone and replaced by healthier interests. Even suppose we can make this psychic trauma innocuous by catharsis, what is to prevent another trauma producing the same symptoms?

A better aim seems to me to strengthen the patient's resistance to all such psychic traumata. It appeals to me rather to train the patient to adopt a comparatively philosophical attitude, to learn to stand the disagreeable and prepare to meet with equal mind the annoyance and dangers incident to life on this particular planet. To relieve in turn each fear on the part of the timorous child or nervous patient may only pave the way for other fears. I do not spend so much time in

trying to convince the hypochondriac that palpitation is harmless as I do in trying to make him adopt the attitude of indifference if it is dangerous. If one has a phobia for thunderstorms I do not direct my efforts so much toward minimizing the danger of lightning as toward arousing the ambition to stand with equanimity the dangers incident to this life.

An essential of this method, which brings it into direct conflict with that of Freud, is the externalization of the interests and the replacement of morbid thought by healthy action. Nothing can be more antagonistic to this aim than having the patient, whether standing, sitting or lying down, dilate upon his psychic experiences and recall his dreams, nor need the practitioner of this, which appeals to me as the more rational method, apologize for omitting psycho-analysis in the Freudian sense from his therapeutic armamentarium.

In fact, the more I study the psychology and psychotherapy of Freud, the more I doubt if it offers adequate return for leaving the beaten track of logical deduction and established practice.

DR. GEORGE H. WRIGHT demonstrated the development of teeth and showed how various agents, such as thumbsucking and adenoids, could change the normal shape of the mouth. He gave physiological reasons for all his conclusions.

#### DISCUSSION.

DR. W. P. COUES: I should like to say that the remarks of the speaker were extremely interesting and I agree with him in every way. The question of glands in the neck I think is very important. I believe that almost all the enlarged glands in the neck in children come from irritation and that very few are at first tubercular, and that if they are tubercular they become so after the irritation.

DR. CHANNING SIMMONS read a paper on

#### TWO CASES OF INTRACRANIAL CEREBRAL HEMORRHAGE IN THE NEWBORN RELIEVED BY OPERATION.

#### DISCUSSION.

DR. W. E. PAUL: The class of cases Dr. Simmons has operated on receive an inestimable benefit by the removal of the blood and the clot. Such cases are the ones seen in later life with diplegia from damage to the cortex due to the retained hemorrhage. It seems likely that evacuation of the blood will prevent or greatly limit permanent impairment.

DR. A. B. EMMONS: I would like to ask Dr. Simmons if he attempted to wash out the clot, or if he thinks it is possible with the single incisions used by him. Dr. Simmons has probably stated in the unread part of his paper the essentials of diagnosis. In some of Cushing's cases no forceps were used, and it seems to me important to emphasize that such cases may result from spontaneous labor of only moderate severity. The asphyxia at the time of birth is a very important factor, according to Cushing, in determining cerebral hemorrhage.

DR. CURRY: I saw a case about two years ago in a child, who was then twenty-two months old, which gave apparently a good history of cerebral hemorrhage of the newborn starting in when about three days old with left-sided convulsions; these convulsions becoming general and the child having a number of them a day, we decided to operate. Under the dura we found an area about the size of half an egg, filled with serous fluid, and drained it. This cyst we took for a degenerate blood clot. The child improved mentally, there were no more convulsions and it certainly seems as if the chance we took was worth while. I intended to say that we went in on the right side.

DR. SWIFT: If many of these operations are to be

undertaken it would be a great help to some investigator later if at the time of operation exact data were tabulated as to location of any brain puncture or brain injury. Then, when a series of these cases came to autopsy, the carefully tabulated data would furnish splendid material for research that might add something of value to our present all too meager knowledge of exact localization of brain lesions.

DR. I. H. CORLIAT: In a number of cases of epilepsy and in the spastic conditions of children, there have been histories of undoubted cerebral hemorrhages at birth, and I have not the slightest doubt that in the cases of epilepsy which developed later in life, where we get a history of slight twitching and slight lapses of consciousness, that some process of the sort which Dr. Simmons has described has gone on and could probably be relieved by operation.

DR. F. B. TALBOT: The interesting part of Dr. Simmons' paper from the point of view of the medical man was the fact that in the first case he had one that was apparently a cerebral hemorrhage with the bulging fontanelle. The bulging fontanelle is what we make our diagnosis on in a baby giving these symptoms the first week of life. But in the second case the fontanelle was not bulging, and only admitted the tip of the little finger. The skull apparently was so compressed that the bones overlapped each other so that the fontanelle was abnormally small. It probably would have bulged if it were physically possible to do so.

DR. SIMMONS: The clot can be very easily removed by enlarging the opening and washing it out. Dr. Archibald has reported seventy-four autopsies on children between the years of one and three with this condition. The hemorrhage is very apt to be extremely diffuse over the hemispheres and under the tentorium at the same time. I would also say that you could hardly get a knife through the sutures, they were so small. I do not know what the chances are of starting up a fresh hemorrhage. There was a hemorrhage in the second case, but I think that surely came from the scalp at the end of twenty-four hours when they changed the dressing. I am sorry that I had not time to read the few pages I skipped as they contained the method of making the diagnosis. I will say that these cases occur usually in primiparae as the result of difficult labor and the bones may become torn. It occurs in difficult labors and may occur in breech presentation as well as in head presentation, and may occur with or without forceps; usually comes on after twenty-four hours, or it may be delayed three, four or five days even. May occur anywhere over the hemisphere and under the tentorium. The diagnosis is not difficult when localizing signs are present. When these are absent the diagnosis must be based on the cerebral compression and cerebral irritation; there is more or less cyanosis; the pulse may be full or rapid and weak. Of course if you get spasticity or twitching there is localized irritation. The chief thing in the diagnosis is obtaining blood, usually by lumbar puncture, and the bulging fontanelle. We ought to cut through a large clot of blood and render the parts perfectly clean.

#### Book Reviews.

*Diseases of the Ear, Nose and Throat, Medical and Surgical.* By WENDELL CHRISTOPHER PHILLIPS, M.D., Professor of Otology, New York Post-Graduate Medical School; Surgeon to Manhattan Eye, Ear and Throat Hospital; Fellow of the American Laryngo-

logical, Rhinological and Otological Society; Fellow of the American Otological Society; Fellow of the American Academy of Ophthalmology and Otolaryngology, etc. Illustrated with 545 half-tone and other text engravings, many of them original, including 31 full-page plates, some in colors. Philadelphia: F. A. Davis Company. 1911.

The purpose of this volume is stated by the author in his preface as follows: "It has been my conscientious endeavor to define the essential features of the principal diseases of the ear, nose and throat, and to outline the modern and approved methods of treatment for these affections.

The work has been attempted in part in response to repeated requests from many students and practitioners of medicine whom I have been privileged to instruct in the New York Post-Graduate Medical School and at the Manhattan Eye, Ear and Throat Hospital during the past twenty years. Hence it has been prepared to meet the needs of the general practitioner and surgeon as well as the otologist and laryngologist.

"I have purposely refrained from perpetuating discarded theories or descriptions, operations which are either obsolete or have been superseded by more modern methods, simply to conform to the older textbooks. Nor have I introduced modern theories or operations unless they possess a reasonable scientific value. In short, my purpose has been to write a practical, accurate and concise treatise bearing upon personal experience."

The volume consists of 847 pages. It is compact and not unduly large. Four hundred and thirty-three pages are devoted to the ear, and about one hundred pages less are devoted to the nose and throat, and the remaining and intervening pages—some fifty-seven—to general diseases which affect the ear or the nose and throat. The latest investigations in the three main subjects are given a place. For instance, labyrinthine tests and modern surgery of the labyrinth are given due space, as well as bronchoscopy and esophagoscopy. The labyrinthine tests appear as a summary of the lectures of Neumann, which were delivered in this country last year. There are 818 illustrations, some thirteen of which are colored, and there are seven reproductions of x-ray plates. The volume begins with a chapter on "Office Equipment," and concludes with the formulary of the Manhattan Eye, Ear and Throat Hospital.

The first part of the book, that dealing with the ear, is the better. The text is more spirited and the illustrations are fresher. The chapters which deal with acute mastoiditis, chronic purulent otitis media and the chief operations which they call for, that is, the simple and the radical mastoid operation, the chapters on the labyrinth and on sinus thrombosis and intracranial complications, are the most satisfactory in the whole book. They are written in a practical, straightforward manner and are up to date. The illustrations, especially those of the section dealing with the ear, are numerous and show their points well. Many of

the illustrations are of a high grade artistically. The paper of the book is good and the printing of the text is excellent. The pages are pleasing to the eye. Many of the small cuts are printed too dark.

The author has adopted a simple classification of ear diseases, and his pathology, except in one place, where he takes up the method of tonsillar infection, is uninvolved and easy to understand. He has industriously collected the articles which epitomize the recent progress of otology and rhinology and has incorporated them in his text. In the main, the writer has accomplished his purpose in writing his book. The book should be a useful one. It is not a book of distinction. As it covers a tremendous field, naturally its chief defect is that it is occasionally sketchy.

In describing the operation for acute mastoiditis the writer does not mention how long it usually takes for the wound to heal. Both the patient and the operator are vitally interested in this point. The anatomy of the facial nerve in the infant as well as in the adult could be dwelt on more fully with advantage. The surgical procedures required for dealing with a divided facial nerve are well described and clearly illustrated, but the reader is left in doubt as to how long he should wait before employing them. The anatomy of the Eustachian tube as it has been brought out by recent investigation and its modern therapy are not given adequate mention. The best way of opening a circumtonsillar abscess, namely, incision through the supratonsillar fossa, is not spoken of, and nasal adhesions, which are one of the most troublesome of the minor pathological conditions with which the rhinologist has to deal, are scantily treated. They are ascribed to bungling operating, and a bungling method of dealing with them; removal with a punch is advocated. By far the best method is excision with a knife combined with submucous resection of a part of the septum. Nasal hemorrhage is mentioned rather lightly, the modern method of packing the nose is not sufficiently emphasized, and transfusion of blood is not given a place. In severe bleeding after the removal of the tonsils temporary obliteration of the tonsillar fossa by deep sutures through the pillars is not described.

*Maternity Primer.* By A. H. F. BARBOUR, M.D., LL.D., Physician to the Edinburgh Royal Maternity Hospital. New York: William Wood & Co. 1912.

This small book is a collection of systematic "notes printed for the use of nurses on commencing their maternity training." Unlike most obstetric textbooks for nurses, it is well written and does not attempt too much. It presents clearly, simply and emphatically the things a nurse ought to know about pregnancy, labor and the puerperium, and their management, and does not undertake to teach anything else. Like most English works, however, it errs in cursorily condemning "the curious ideas of other countries" about the value of percentage modification of cow's milk in infant feeding. With this exception, it is heartily to be commended.



# THE BOSTON Medical and Surgical Journal.

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## REPORT OF THE PRESIDENT OF HARVARD COLLEGE.

THE annual report of the president of Harvard College to the Board of Overseers, published under date of April 2, contains several matters of interest relative to the Harvard Medical School.

After commenting on the steps taken to secure closer connection between the school and the various hospitals of the city, Mr. Lowell discusses the new plan of examination adopted in October, 1911, by the Faculty of Medicine. The purpose of the projected change in method of examination, which is to go into effect with the class entering in the fall of 1912, is to substitute, for the separate written examinations upon individual subjects held from time to time throughout the medical course, two more extended general examinations, both written and oral, before boards of examiners, designed to test the student's co-ordination of all his subjects, his mastery of the entire field of medical science, and his ability practically to apply his knowledge to the work of his profession. The aim of such a method is "to measure the student's comprehension, judgment and skill, rather than to test his detailed information." To this end a series of examining committees is to be appointed, consisting of others besides those who have given the instruction in the courses under examination. The first general examination, at the end of the second year, will deal with the laboratory subjects; the second, at the end of the fourth year, with the clinical subjects as well. The system is analogous to that of the state medical examinations in Germany. Its details were admirably presented by Dr. Henry A. Christian, on Feb. 28, in a paper read at a meeting of the Association of American Medical Colleges

held in Chicago. The test of its success and adaptability can be made only by actual trial. Its adoption marks an important step in methods of medical education.

Mr. Lowell also calls particular attention to the pressing needs of the Dental School. The new building of this institution and its equipment are ample and adequate, but the funds for its support very insufficient. Great credit is due to the clinical teachers of its staff, who for years have served without salary in order to place the school where it stands. Their loyalty and self-sacrifice are characteristic of the medical profession, but none the less deserving of praise and recognition. An endowment of at least \$500,000 is needed to resume the payment of their salaries and to guarantee their continuance in the future. Gratitude and appreciation of the work which the Dental School has accomplished to the credit of the university, of the community and of American dental science, should prompt the early securement of the sum required.

Appended to the president's report are the reports of the several departments of the University. Those of the deans of the Medical and Dental Schools record in detail the work of these respective institutions.

The report of the chairman of the committee on the regulation of athletic sports contains some rather striking comment on the present status of intercollegiate baseball as a gentlemen's game. A recent writer in the *American Magazine* is quoted as saying that "baseball has the strangest code of ethics of any game played by men." After reading this author's description of some of the strategy employed by great professional baseball generals one would almost agree with his conclusion, though as a matter of fact the ethics of baseball is probably not far different from that of the stock market, and certain other of the great games of life. All the more is there reason for raising the standard in baseball and other athletic competitions, where the outcome of the game is really of no importance. Athletics should be a means of moral and intellectual as well as of physical training. The essence of sport should be rivalry with absolute fairness to all competitors. No class in the community appreciates the value and importance of athletic sports more than do physicians, whose daily practice emphasizes to them not only the physical evils which good sport may avert or eradicate, but the essentials of truth and honor which good sport should cultivate and maintain.



## MEDICAL CERTIFICATION FOR MATRIMONY.

On Sunday, March 24, in a sermon on "The Sacrament of Marriage," the Rev. Walter T. Sumner, Dean of the Protestant Episcopal Cathedral of Saints Peter and Paul, in Chicago, announced that "beginning with Easter no persons will be married at the cathedral unless they present a certificate of health from a reputable physician to the effect that they are normal, physically and mentally, and have neither an incurable nor a communicable disease."

This announcement, which was made with the approval of the Bishop of Chicago, marks an important declaration of attitude on the part of the clergy of this congregation towards one of the serious problems of modern life.

That those who are physically or mentally or morally unfit should not enter into the marital relation has long been recognized by physicians, and by philosophers since the times of Plato. Society has as yet, however, evolved but few restrictions on marriage, so long as it be monogamous, other than those self-imposed by the conscience or education of the contracting parties. The desirability of medical certification for matrimony has been often suggested but never realized. Among the enlightened it is now pretty generally recognized that the insane, the criminal and the degenerate should be compulsorily prevented from procreation, and that persons with venereal disease should not marry until that disease is cured. Nevertheless, apart from the segregation and in some instances sterilization of the former classes, no measure has been taken to prevent their increase, and the damage still done by marriage with uncured venereal disease is inconceivable by any but physicians.

The step taken by the church above referred to is important because it marks a definite attempt to deal with the problem. Whether it is judicious, whether it will be successful, are questions which can be determined only by trial. Comment upon it has been varied. It has been equally approved and condemned by publicists, by educators, by clergymen of the same and of different denominations. Perhaps the soundest criticism of it that has been made is that the decision as to fitness for marriage rests with the state and not the church. If the state required a physician's certificate, then its license would be equivalent to a statement of fitness. Nevertheless, the state does not require such a certificate, and the church has courageously made a beginning. The experiment may fail, but it is

one that should be made and well deserves trying.

As a matter of fact, the experiment will probably have little immediate effect other than as an example. Yet the influence of example may sometimes be tremendous. The difficulties in the way of interfering with freedom in marriage are obvious. The instinct of procreation is second only to that of self-preservation, and the biologic right of the individual to attempt his perpetuation is as inalienable as that to struggle for his own existence, since each is a law of survival and evolution. Socially these rights may be curtailed or abrogated by the species collectively for its own benefit, but any attempt to do so will inevitably be met with resistance or evasion. Those whom the church refuses to marry will be married by the state, and if the state refuse to marry them, they will secure the ends of matrimony without its ceremonies. In the long run society will win, because mankind collectively is too strong for man individually; but the individual man will die fighting. Any successful medical regulation of matrimony must come, like the reform of any great evil, by the slow development of a popular opinion. And in the development of such an opinion with reference to matrimony, the action of the Chicago church is likely to prove an example of considerable influence.

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RELATION OF WATER AND OF FLIES TO  
TYPHOID INFECTION. THE PROBLEM  
OF FLY EXTERMINATION.

On Wednesday evening of this week, April 3, Dr. Allan J. McLaughlin, of Washington, D. C., addressed a joint meeting of the Boston Medical Library and the Suffolk District Medical Society on "The Eradication of Typhoid." The substance of his paper was presented in the weekly report of the United States Public Health and Marine-Hospital Service for March 22. In view of the fact that the majority of typhoid infections are water-borne, he emphasized the necessity for safe water supplies in the control of typhoid fever. He believes that unfiltered or impounded surface waters are always sources of danger, and that purification, to be efficient, should always be controlled by a daily quantitative estimation of *Bacillus coli*, since a low bacterial count does not necessarily mean a safe water without absence of colon bacilli.

The subject of the transmission of typhoid fever and other infections through the agency of

the common house-fly was discussed by Dr. Mark W. Richardson and Dr. Samuel H. Durgin. In illustration of certain aspects of this question there was shown a moving picture film entitled "The Fly Pest." With the advent of spring, the problem of the extermination of flies deserves and should receive renewed medical attention.

The problem of fly extermination was further considered in a recent address in Boston by Dr. C. F. Hodge, of Clark University. He emphasized the various ways in which infection may be spread by flies, and the variety of diseases which may be thus transmitted. He described the details of the attempt to eradicate the fly in Worcester, and pointed out the real possibility of success.

As a matter of fact, the domestic fly is probably not quite so serious a menace to popular health as his enemies would imply, but at best he is an unclean creature and serves no function in the "sorry scheme of things." Perhaps a flyless world might still not be the best of all possible worlds, but, like all ideals, it is worthy of attempted attainment. Whatever else it may have accomplished, the effort to exterminate flies has at least been provocative of some humorous situations, as usual with regard to small boys enlisted in the conflict by the allurements of a money reward. Best of all is the reported instance of the boy who carefully bred and raised flies in a trap, then killed and brought them in, claiming large reward for his achievement. As an exquisite illustration of the serious ingenuity and perennial wholesome acquisitiveness of human youth, this episode is refreshing assurance that even civilization cannot destroy the innate instincts which have given our species "dominion over palm and pine" and over every beast and creeping thing.

#### MEDICAL NOTES.

**A VISITING BRITISH PHYSICIAN.** — Dr. Sir Bertrand Dawson, K.C.V.O., physician to King George V, of England, arrived in New York on March 29. He is to make an extensive trip in this country for the purpose of studying American methods in medicine and surgery.

**THREE CENTENARIANS.** — William Cape, who died on March 24, at Atlanta, Ga., is said to have been born in 1810. He is survived by seventeen of his twenty-three children.

Mrs. Mary Laroque died last week at Brockville, Ont., at the alleged age of one hundred and two.

Antonio Lopez, who died last week at Trinidad, Colo., is said to have been born in 1808. For the past forty years he had lived as a hermit at the neighboring village of Garcia Plaza.

**MEDALLION IN HONOR OF DR. LONG.** — On March 30, 1912, a bronze medallion was unveiled in the Medical Laboratory Building of the University of Pennsylvania in honor of Dr. Crawford Williamson Long, a medical graduate of the university, "who first made use of ether as an anesthetic for surgical purposes on March 30, 1842." Addresses were made by Dr. J. William White and Dr. J. Chalmers Da Costa.

**DEGREE OF D.P.H. AT WISCONSIN.** — It has been voted recently by the Board of Regents to establish at the University of Wisconsin the degree of D.P.H. Candidates for this degree must have received the degree of M.D. from a medical school of approved standing, and subsequent to their graduation must have spent at least two years in the study of hygiene, public health and related sciences.

**PASSAGE OF THE HUGHES PHOSPHORUS BILL.** — In the issues of the JOURNAL for Jan. 18 and Feb. 8, we commented on the Esch Phosphorus Bill, then pending before the National Legislature. Report from Washington, D. C., states that on March 28, the House of Representatives passed the Hughes Bill, a substitute for the Esch Bill, which places a prohibitive tax on matches manufactured of white phosphorus, and forbids their exportation or importation. If the measure passes the United States Senate, its provisions will go into effect on July 1, 1913. Its purpose is to prevent the possibility of phosphorus necrosis among match-workers.

**REGISTRATION AT AMERICAN UNIVERSITIES.** — Statistics published in a communication to the issue of *Science* for March 29 present the net total enrollment of students at twenty-eight American universities on Nov. 1, 1911, including the summer session. Columbia leads the list, with 7,938; California is second, with 5,724; and Harvard third, with 5,674. Those next in order, having over 4,000 students each, are Cornell, Michigan, Chicago, Pennsylvania, Wisconsin, Illinois, New York and Minnesota. Yale stands sixteenth, with 3,224; Princeton twenty-fourth, with 1,543; and Virginia last with 804.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, March 26, 1912, there

were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 33, scarlatina 34, typhoid fever 3, measles 191, smallpox 0, tuberculosis 65.

The death-rate of the reported deaths for the week ending March 26, 1912, was 18.83.

**BOSTON MORTALITY STATISTICS.**—The total number of deaths reported to the Board of Health for the week ending Saturday noon, March 30, 1912, was 287, against 233 the corresponding week of last year, showing an increase of 54 deaths, and making the death-rate for the week, 20.78. Of this number 155 were males and 132 were females; 275 were white and 12 colored; 186 were born in the United States, 95 in foreign countries and 6 unknown; 65 were of American parentage, 191 of foreign parentage and 31 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 29 cases and 4 deaths; scarlatina, 26 cases and 0 deaths; typhoid fever, 7 cases and 0 deaths; measles, 175 cases and 0 deaths; tuberculosis, 72 cases and 23 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 48, whooping cough 0, heart disease 32, bronchitis 5. There were 17 deaths from violent causes. The number of children who died under one year was 60; the number under five years, 88. The number of persons who died over sixty years of age was 82. The deaths in hospitals and public institutions were 116.

**BEQUEST TO SHARON SANATORIUM.**—By the will of Mrs. Augusta M. Barnard, the Sharon Sanatorium has received a bequest of \$5,000.

**DIPHTHERIA IN CAMBRIDGE.**—Seven cases of diphtheria were reported last week in Cambridge, Mass., among students of Harvard College or of the Harvard Law School, but the disease is not considered epidemic. All the patients have been transferred to the Stillman Infirmary.

**VIOLATIONS OF PURE FOOD LAWS.**—In the Charlestown police court last week, two dealers of that district were found guilty of selling oleomargarine in violation of the law. Another was fined \$20 and eight were fined \$10 each for having in their possession milk not up to the standard of quality.

**APPEAL OF INSTRUCTIVE NURSING ASSOCIATION.**—An appeal is made by the Boston Instructive District Nursing Association for contributions towards an endowment fund of \$100,000, of which \$59,645 have already been raised,

to meet the increased expenses incident to the growth and extension of the work of the association.

**MELROSE HOSPITAL FUND.**—On March 30, the Melrose Hospital Fund, to which we referred in last week's issue of the JOURNAL, lacked only \$308.15 of the \$100,000 which it was desired to raise. This sum was not only completed, but exceeded, and on April 1 the fund was reported as amounting to \$125,000.

**PROJECTS OF THE CITY HOSPITAL.**—It is announced that the trustees of the Boston City Hospital have requested a special appropriation of \$297,000 for the enlargement of the South Department for contagious diseases at that institution; also of \$5,000 for the establishment of an orthopedic department, and of \$5,000 for the establishment of a special clinic for patients with tuberculosis.

**REPORT OF THE LYNN HOSPITAL.**—The recently published thirty-first annual report of the Lynn (Mass.) Hospital records the work of that institution for the year ending Dec. 14, 1911. During this period 2,271 house cases were admitted, and 17,192 visits were made to the outpatient department. Eight nurses were graduated from the training school. The most urgent immediate need of the hospital is a new ward for children.

**NOMINATION OF A NEW DEAN.**—It is announced in the daily press that Dr. Edward Hickling Bradford, of Boston, emeritus professor of orthopedic surgery in Harvard University, has been appointed Dean of the Harvard Medical School, to succeed Dr. Henry Asbury Christian, who has lately resigned. We understand that Dr. Bradford has been nominated to that position by the President and Fellows of Harvard College, and that this nomination awaits the approval of the Board of Overseers.

**TWO CENTENARIANS.**—Mrs. William N. Kennedy, who died last week at Lee, Mass., is said to have been born on Feb. 29, 1812.

In the issue of the JOURNAL for Feb. 8 we chronicled the celebration, on Feb. 4, by Mr. Daniel Davis, of West Royalston, Mass., of the supposed one hundred and third anniversary of his birth. On March 30, Mr. Davis died, in the same house in which he is said to have been born, and where he had lived for the last seventy-eight years. Until within a short time he used to go into the woods daily with a shotgun to hunt small game.

**TREATMENT OF DEFECTIVE SCHOOL CHILDREN.—**

On March 28, a conference was held at the Boston City Hall for the purpose of discussing plans for dealing with defective children in the local public schools. Among those invited to be present were Dr. Frederic A. Washburn, administrator of the Massachusetts General Hospital; Dr. Eugene H. Smith, Dean of the Harvard Dental School; Dr. Timothy Leary, of the Tufts Medical School; Mr. Michael F. Davis, superintendent of the Boston Dispensary, and Mr. Edward F. McSweeney, chairman of the trustees of the Boston Consumptives' Hospital. The results of this conference have not yet been announced.

**RECENT HOSPITAL BEQUESTS.**—The will of the late Elizabeth Dynan, of Cambridge, Mass., which was filed on March 27 in the Middlesex Registry of Probate, contains numerous charitable bequests, among them one of \$1,000 to the Free Home for Consumptives, Dorchester, and others of \$500 each to the Holy Ghost Hospital, Cambridge, and to the Carney Hospital, South Boston.

The will of the late Charles John Prince, of Boston, which was filed last week in the Suffolk Registry of Probate, provides certain charitable bequests contingent upon the death of his widow without issue, in which case the residue of his estate, estimated at \$100,000, will be divided equally between the Children's Hospital, Boston; the Industrial School for Crippled and Deformed Children, the Free Home for Consumptives, the Boston Floating Hospital, and five other charitable and philanthropic institutions.

**WORK OF THE MASSACHUSETTS HOMŒOPATHIC HOSPITAL.**—The recently published forty-second annual report of the Massachusetts Homœopathic Hospital, Boston, presents the record of work of this institution for the year ending Dec. 31, 1911. During this period the entire number of patients treated in all departments of the hospital was 20,571, of whom 5,213 were house cases. Twenty-eight nurses were graduated from the training school. The establishment of the Robert Dawson Evans Memorial Building is described in detail. On Tuesday, April 2, Dr. Richard C. Cabot, of Boston, gave in this building the first of a series of seven lectures, announced by the department of preventive medicine, on "The Physician and the Community." Dr. Cabot's subject was "The Social Duties of the Physician." The second lecture in this series will be given on Tuesday, April 9, by Dr. William C. Hanson, of the Massachusetts State Board of Health, on "The Prevention of Contagious Diseases."

**NEW YORK.**

**THREE LARGE MEDICAL BEQUESTS.**—The will of the late Phoebe Caroline Swords, of New York City, contains bequests of \$41,000 to St. Luke's Hospital and \$10,000 to Columbia University for the establishment of a scholarship at the College of Physicians and Surgeons in that city.

Among the charitable bequests in the will of the late Henry E. Pierrepont, of Brooklyn, N. Y., is one of \$10,000 to the Brooklyn Hospital.

**HOSPITAL SATURDAY AND SUNDAY ASSOCIATION.**—At a meeting of the trustees of the Hospital Saturday and Sunday Association, held on Nov. 13, it was determined to make a special effort to secure \$200,000 for the annual distribution this year. Last year the fund, after the deduction of the necessary expenses, amounted to \$90,684.

**SEIZURE OF CATSUP AT BUFFALO.**—Report from Buffalo, N. Y., states that on March 29 the federal officials seized at four large wholesale houses in that city, 12,000 bottles of catsup alleged to be misbranded and to contain 90,000,000 bacteria per cubic centimeter.

**HYPERFECUNDITY AS A MOTIVE FOR SUICIDE.**—On March 26 Mrs. Agnes Racilta, of New York City, attempted to commit suicide by drinking a bottle of turpentine. Her motive is alleged to be discouragement because in her twenty-five years of married life she had given birth to twenty-three children and was again pregnant. It is believed that she will not die. Only seven of her children are living.

**RECENT APPOINTMENTS.**—The Governor has appointed Dr. Frederick Peterson, of New York, on the board of managers of the Craig Colony for Epileptics, and Dr. Charles Stover, of Amsterdam, recently president of the State Medical Society, a manager of the tuberculosis hospital at Ray Brook, in the Adirondacks.

**ADVISORY PATHOLOGIC BOARD.**—An advisory board has been appointed to the pathological and bacteriological department of the New York Quarantine Service which consists of Professors J. H. Larkin and F. C. Wood, of the College of Physicians and Surgeons; James Ewing, of Cornell University Medical College, and J. M. Van Cott, of the Long Island College Hospital.

**FILTRATION OF CROTON WATER.**—Controller Pendergast recently sent Commissioner Lederle of the Health Department a letter in which he expressed the desire that some method might be found by which the clerks and others

in the various city departments could be furnished filtered Croton water, instead of the expensive mineral water now bought for their use. In 1911, he said, the city paid \$9,000 for this purpose, and it seemed strange to him that the city of New York, while spending millions of dollars a year to maintain and safeguard its water supply, should deem it necessary to purchase spring water for its employees from private corporations. It may be explained that it will be some three years yet before the great filtering plant for New York's water supply, now in process of construction, will be completed.

### Current Literature.

#### MEDICAL RECORD.

MARCH 23, 1912.

1. HAMILTON, A. M. *The Pathogeny of Mental Disease, with Special Reference to the Minor Psychoses.*
2. MORRIS, R. T. *Prominent Ears.*
3. MACCALLUM, G. A. *Malformation of Taenia Saginata (T. triedre).*
4. SHEFFIELD, H. B. *Pediatric Memoranda: Atypical Incipient Poliomyelitis and Its Diagnostic Difficulties.*
5. DEEKS, W. E. *Pellagra in the Canal Zone.*
6. MAVERICK, A. *A Case of Acroparesthesia.*
7. WAUGH, W. F. *Berberine.*

#### NEW YORK MEDICAL JOURNAL.

MARCH 23, 1912.

1. DEEVER, J. B. *Personal Experience with Diseases of the Pancreas.*
2. MORROW, P. A. *Report of Progress in Sanitary and Moral Prophylaxis.*
3. PRYOR, J. H. *Some Reasons why Incipient Pulmonary Tuberculosis is not Diagnosed.*
4. DIEFFENBACH, W. H. *Plastic Roentgenography.*
5. ROSENBERGER, R. C. *A Case of Quadruple Infestation and the Occurrence of Amebae in the Stools of Apparently Healthy Individuals.*
6. STRONG, L. W. *The Preparation and Use of Thrombo-kinase.*
7. COUGHLIN, R. E. *Secret Division of Fees.*
8. BROWN, H. A. *The Extension of the Registration Area.*
9. CLEMENS, J. C. *The David Phosphatic Index, in Relation to Diseases of the Eye.*

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

MARCH 23, 1912.

1. BLOODGOOD, J. C. *Medical Aspects of Surgical Diseases or Preventive Surgery.*
2. COBURN, R. C. *A New Apparatus for Administering and Warming General Anesthetics and New Methods of Administration.*
3. BUNNELL, S. *The Use of Nitrous Oxide and Oxygen to Maintain Anesthesia and Positive Pressure for Thoracic Surgery.*
4. CLARK, L. P., AND ATWOOD, C. E. *A Study of the Significance of the Habit Movements in Mental Defectives.*
5. SOPHIAN, A. *A New Method for Controlling the Administration of Serum in Epidemic Meningitis. Preliminary Note.*
6. HIRST, B. C. *An Operation for Prolapsus Uteri without Disturbance of Anatomic Relations and without the Necessity for Abdominal Section.*
7. MONTGOMERY, D. W. *An Instance of Unusual Sensitiveness of the Colon to Mercury.*
8. MCCABEY, G. W. *A Case of Sporadic Cerebrospinal Meningitis Simulating the Uremia of Bright's Disease.*

9. BURNHAM, A. C. *Chloride Excretion in Alcoholic Cirrhosis.*
10. PETTIT, J. W. *The Effect of Intercurrent Pneumonic Complications on the Course of Chronic Pulmonary Tuberculosis.*
11. HERZSTEIN, M., AND BAER, A. *A Case of Acute Mercurial Poisoning Followed by General Necrosis of Maxillary Bones and Purulent Otitis Media.*
12. SMITH, C. *Intravenous Local Anesthesia.*
13. SMITH, S. A. *A Case of Status Epilepticus with an Unusually Large Number of Convulsions.*
14. ENGMAN, M. F. *Epithelioma of the Tongue with No Recurrence Nine Years after Clinical Cure with X-Ray.*

#### ARCHIVES OF INTERNAL MEDICINE.

MARCH, 1912.

1. \*McCRUDDEN, F. H., AND FALES, S. B. *Studies in Bone Metabolism: The Etiology of Non-Puerperal Osteomalacia.*
2. \*ROWNTREE, L. G., AND GERAGHTY, J. T. *The Phthalein Test.*
3. \*MOSENTHAL, H. O. *A Case of Pancreatic Diabetes Mellitus.*
4. \*ADLER, I., AND KREHBIEL, O. F. *Orthodiascopic Observations Concerning a Certain Type of Small Heart and Its Relations to Some General Systemic Affections.*
5. \*PEARCE, R. M. *The Influence of Kidney Extracts on the Blood Pressure. (Supplementary Note.)*
6. WHIFFLE, G. H. *Hemorrhagic Disease. Septicemia, Melena Neonatorum and Hepatic Cirrhosis.*

1. McCrudden and Fales report a case of non-puerperal osteomalacia, with two skiagrams, which they believe supports their previous theory of the etiology, namely, that the condition is due to a loss of calcium with retention of magnesium and sulphur. The presence of bony tumors may be the starting point of the disease by causing a demand for calcium salts. Excretion of calcium during this time illustrates the importance of overproduction in bringing about the softening of bone.

2. Rowntree and Geraghty report the results of an experimental and clinical study of phenolsulphonaphthalein in relation to renal function in health and disease. Their conclusions are summarized as follows:

(1) The absorption of phenolsulphonaphthalein following injection into the lumbar muscles is better than the absorption from the gluteal injection, while the latter is superior to subcutaneous injection.

(2) Administration into the lumbar muscles is the method of choice.

(3) Experimentally those diuretics that stimulate the renal cells to increased activity cause some increased secretion of phenolsulphonaphthalein, while those that act mechanically produce no increased secretion. Clinically diuretics do not influence the phthalein output.

(4) Experimental evidence seems to indicate that phenolsulphonaphthalein is excreted mostly by the tubules but probably also to a slight extent by the glomeruli.

(5) The renal cells display a striking specificity in the excretion of phenolsulphonaphthalein.

(6) Phenolsulphonaphthalein has many advantages over all other functional tests so far proposed.

(7) It is better adapted for use as a functional test than any other drug previously employed for the same purpose, on account of its early appearance in the urine and the rapidity and completeness of its elimination by the kidney and the reliance to be placed on its findings.

(8) The method of quantitative estimation of the amount of drug excreted is simple and exceedingly accurate.

(9) It is of immense value from a diagnostic and prognostic standpoint in nephritis inasmuch as it reveals the degree of functional derangement in nephritis whether of the acute or chronic variety.

(10) In the cardiorenal cases so far studied the test has proved of value in determining to what degree renal insufficiency was responsible for the clinical picture presented.

(11) The test has proved of value not only in diagnosing uremia from conditions simulating it, but has also successfully indicated that uremia was impending when no clinical evidence of its existence at the time was present.

(12) The test has proved of great value in revealing the true renal condition in cases of urinary obstruction. It is here of more value than the urinary output, total solids, urea or total nitrogen, and enables the surgeon to select a time for operation when the kidneys are in their most favorable functional condition. The improvement in the renal condition in cases of urinary obstruction following the institution of preliminary treatment is strikingly indicated by this test.

(13) In unilateral and bilateral kidney diseases the absolute amount of work done by each kidney as well as the relative proportion can be determined when the urines are obtained separately.

3. Mosenthal reports a case of pancreatic diabetes illustrating the preferability in treatment of raw pancreas over pancreatic extracts.

4. Adler and Krehbiel report a number of cases, with admirable orthodiascopic tracings and a well-selected bibliography.

5. Pearce has repeated Bingel's recent experiments on nephritis in dogs, and summarizes as follows his conclusions therefrom:

"The method used by Bingel and his associates to demonstrate a pressor substance in kidney extracts fails to reveal such a substance in extracts of the dog's kidney. Extracts of the kidneys of dogs with experimental uranium and chromium nephritis, prepared at a time when the urine is free of the normally present depressor substance, have no pressor effect.

"These observations would appear to demonstrate conclusively that the dog's kidney does not contain a pressor substance which is masked by the more powerful depressor substance. They also fail to support that phase of the theory of internal secretion which assumes that the kidney furnishes a pressor substance of importance in the pathology of cardiovascular disease." [R. M. G.]

#### THE LANCET.

MARCH 2, 1912.

1. \*GARROD, A. E. *Lettsomian Lectures on Glycosuria. Lecture II.*
2. \*MOULLIN, C. M. *The Significance of the Symptoms in Cases of Duodenal Ulcer.*
3. \*THOMSON, F. *The Differential Diagnosis of Certain Infectious Diseases.*
4. NEUMAN, D. *Cystitis: Its Causes and Its Treatment.*
5. FRASER, F. *Two Cases of Volvulus Coincident with Strangulated Hernia.*
6. BUTLER-SMYTHE, A. C. *A Vaginal Pessary Retained for Twenty-Nine Years. Perforation of the Bladder and Fixation of the Instrument by a Large Phosphatic Vesical Calculus; Lithotripsy; Recovery.*
7. JONES, G. P. *Two Cases of Pneumonia Treated with Pneumococcus Vaccine.*
8. BREND, W. A. *An Examination of the Medical Provisions of the National Insurance Act.*

1. In the second of the Lettsomian lectures, Garrod considers first the treatment of temporary glycosuria and then takes up the question of the diabetic tendency, glycosuria and the nervous system, glycosuria and diseases of the pancreas, glycosuria and hepatic diseases, and last, glycosuria and febrile disorders.

2. Moullin discusses in considerable detail some of the more striking symptoms often accompanying gastric ulcer and their causation. Pain, for instance, usually thought to be due to excessive acid coming in contact with a raw ulcerated surface, is really due to muscular spasm of the pylorus. Hemorrhage, in turn, may be a general oozing and not the result of a single bleeding vessel in an ulcer. Hyperacidity also is in no way a proof or even strong evidence of an ulcer.

3. Thomson discusses the differential diagnosis between scarlet fever and German measles, measles and scarlet fever, and smallpox and chicken pox. [J. B. H.]

#### BRITISH MEDICAL JOURNAL.

MARCH 2, 1912.

1. \*GIBBONS, R. A. *A Lecture on Pruritus Vulvæ: Its Etiology and Treatment.*
2. GOW, W. J. *Remarks on Retroversion of the Uterus.*

3. PEARSON, C. Y. *Observations on Four Successful Cases of Cesarean Section.*
4. DAVIES-COLLEY, R. *The Diagnosis of Ectopic Gestation.*
5. RAVEN, H. M. *Albuminuria in Pregnancy.*
6. MYERS, B. *Chicken-Pox During the Puerperium.*

1. Gibbons discusses in a thoroughly practical way pruritus vulvæ and the treatment of this distressing condition, its causation, pathology and prognosis. Treatment he divides into two methods, one by internal remedies, such as diet and bromides, and the other by external remedies. He finally discusses treatment by operation. This method he divides into (a) application of some form of cautery, (b) excision of affected parts, and (c) division of nerves. [J. B. H.]

#### THE PRACTITIONER.

MARCH 1912.

1. \*BEDDARD, A. P. *Anemic Vomiting.*
2. GRANT, J. D. *Some Appliances of Use to the General Practitioner in the Treatment of Diseases of the Throat, Nose and Ear.*
3. \*MALCOLM, J. D. *Remarks on Four Hundred Operations Involving the Peritoneal Cavity, and a Comparison of the Death-Rate, 3.76%, with that of the Writer's Earliest Work.*
4. \*MCGAVIN, L., AND O'LEARY, R. D. *A Report and Analysis of Five Hundred Operations Performed under the Influence of Spinal Analgesia by the Use of Stovaine-Glucose Solution.*
5. \*LAPAGE, C. P. *Congenital Hypertrophic Stenosis of the Pylorus in Infancy.*
6. WOODWARD, C. *The Causation and Treatment of Dislocation of the Ulnar Nerve Reviewed from the Anatomical Standpoint, with Report of a Case Successfully Treated.*
7. FRESHWATER, D. *The Inunction Treatment of Syphilis as Carried out at Foreign Spas.*
8. \*HICKS, P. *On Morbid States Produced by Chronic Movable Kidney.*
9. \*FRASER, M. S. *The Relation of Chorea to Rheumatism: An Analysis of Three Hundred Cases.*
10. LAURANCE, M. C. S. *Minor Accidents in General Practice.*
11. BURMAN, C. E. L. *A Case of Simple Obstructive Jaundice with Huge Dilatation of the Common Duct.*
12. CRABBE, A. E. *Cerebellar Tumor Causing No Symptoms till Shortly before Death.*
13. LAHIRI, M. *Auto-Serum Treatment of Ascites: Cirrhosis of the Liver in an Infant.*

1. Beddard describes what he calls "anemic vomiting." This is nothing more or less than attacks of acute indigestion, often very severe and associated with nausea and vomiting, occurring in anemic girls. He discusses the symptoms, pain in the epigastrium and vomiting and the diagnosis from gastric ulcer. Treatment consists of absolute rest in bed, full diet, arsenic, etc.; in other words, treatment of the anemia and not of the stomach. The article is hardly convincing as to theory but sound as to practice.

3. This paper is one of those so often seen in which a large number of operations of all kinds are used as the basis for a prolonged discussion as to methods, technic, anesthesia, mortality, shocks, etc. It is too diffuse to be of value.

4. McGavin and O'Leary present a valuable article on five hundred operations under stovaine-glucose solution spinal anesthesia. They discuss and describe the preparation of the patient, position on the table, site of puncture, difficulties in puncture and in obtaining sufficient rise. A second injection was necessary in only 2.6% of the cases. Patients returning for further operation were all willing and glad to have this method of anesthesia. In 3.4% of the cases general anesthesia was needed in addition. They discuss the occurrence of vaso-dilatation, the rapidity of rise and height of analgesia, the effect of the addition of strychnine, the incidence of vomiting, rigors, pyrexia, headaches and backache, dimness of vision, fainting fits, albuminuria, retention of urine, priapism and post-operative complications. In this series there were sixteen deaths, 3.2%, none of which was due to the method of anesthesia. The cases are tabulated.

5. LaPage discusses congenital hypertrophic stenosis of the pylorus in infancy as to incidence, symptoms and signs, pathology, causation and treatment, medical and surgical.

8. Hicks believes that a chronically movable kidney may be directly responsible for a large variety of morbid states, especially neurasthenia. He discusses the neurasthenic symptoms "produced by chronic movable kidney" and devotes especial attention to diagnosis, prognosis and course of the disease. He does not believe that any prolapsed kidney was ever secured and retained by increase of fat. Only operation or some form of support are of any use. (The paper is entirely unconvincing. J. B. H.)

9. Fraser discusses the clinical evidence with regard to the relation of chorea to rheumatism based on three hundred cases. In considering the influence of rheumatism in the production of chorea he takes up first the occurrence of rheumatism previous to, during and after an attack of chorea, as shown in his cases; second, the cardiac affections in chorea; and third, family history of rheumatism and chorea in patients with chorea. There are numerous interesting tables. He believes that the majority of cases of chorea are closely associated with rheumatism, that probably chorea is a cerebral manifestation of rheumatism and that possibly all cases of true chorea are rheumatic in origin. (The paper is of distinct value in summing up evidence on this important point.) [J. B. H.]

#### EDINBURGH MEDICAL JOURNAL.

MARCH, 1912.

1. HART, D. B. *Numan, the Veterinarian and Comparative Anatomist of Utrecht: A Forgotten Observer on the Freemartin.*
2. MARSHALL, D. G. *A Case of Amebic Dysentery Occurring in a Man who has never been out of Scotland.*
3. \*JAMES, A. *Trauma as a Factor in Disease.*

3. James discusses the relation of trauma, mental and physical, to diseases of various kinds. He cites various interesting cases of nerve injury, for instance, which have been followed by gangrene and other circulatory disorders. There are a few excellent illustrations. [J. B. H.]

#### DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT. No. 8.

FEB. 22, 1912.

1. ZIELER, K. *Personal Prophylaxis against the Venereal Diseases.*
2. \*BETTMANN AND LAUBENHEIMER. *Effect of Salvarsan upon Anthrax.*
3. \*FÜLLEBORN, F., AND WERNER. *Effect of Salvarsan on Bilharzia and Observations on the Extrusion of the Parasites.*
4. LAZARUS, P. *Therapeutic Application of Radium Emanations.*
5. HARNACK, E. *The Toxicity of Methyl Alcohol.*
6. KUMAGAI, T., AND INOUE, B. *Essay on the Knowledge of Paroxysmal Hemoglobinuria.*
7. HEUBNER, L. *Extension Treatment for Broken Leg.*
8. RIESE, H. *Combined Operation for Intestinal Cancer.*
9. SCHOPPEL. *Bacteriologic Diagnosis in Diphtheria.*
10. THINIUS, W. *Apparatus for Intravenous Salvarsan Injection.*

2. These authors report two cases of anthrax in human beings treated with salvarsan with resulting cures. They also report on some experimental work with salvarsan and anthrax bacilli on guinea pigs. The conclusion was reached that this drug would prevent a fatal dose from destroying the pig, but it would have no action upon a subsequent injection of the bacilli unless first salvarsan was added. In other words, this drug simply acts as a poison to the invading host and does not stimulate the pig to the formation of substances hostile to the anthrax. It is probable that such is the case in human syphilis, and, therefore, cases cured early will be more liable to reinfection.

3. Although the number of dead parasites may be more numerous in the urine after an injection of salvarsan, these authors feel certain that this drug has no curative effect upon infection with bilharzia. [C. F., JR.]

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 9.

FEB. 27, 1912.

1. SCHÖNE, G. *Immunity to Transplantation.*
2. \*HOFFMANN, J. *Diplegia Brachialis Neuritica.*
3. \*ESCH, P. *Toxicity of Urine and of Blood in Eclampsia.*
4. JAKOB, C. *Ubiquity of the Sensomotor Function of the Cerebral Cortex as the Basis of a New Conception of the Organ of Consciousness.*
5. REICHMANN. *Technic of Lumbar Puncture and Examination of Liquor Cerebrospinalis.*
6. LOENING. *Phenyldimethylpyrazolonamidomethansulphonacid Sodium, a New Antipyretic and Specific for Acute Rheumatism.* (To be continued.)
7. BAER, M. *Veronacetin, a Compounded Hypnotic and Sedative.*
8. SCHWAER, G. *Effect of Salvarsan on the Cellular Elements of the Blood.*
9. KRETSCHMER, J. *Effect of Hormonal.*
10. DORDI, G., AND CANESTRINI, S. *A Case of Intermittent Sensory Aphasia.*
11. WINCKEL, M. *The Therapeutically Useful Components of Bogs.*
12. SCHWARZ, L. *A New Apparatus for Pasteurizing Milk in Small Quantities.*
13. HOHLWEG. *Diagnosis and Treatment of Renal Tuberculosis.*
14. ISCHREY, G. *Plastic Replacement of the Lower Lid.*

2. Hoffman reports three unusual cases of symmetrical paralysis of the arms. The paralysis comes on suddenly and reaches its maximum in a very short time, resembling in this respect acute poliomyelitis, but the writer believes it to be a form of neuritis.

3. By experiments, Esch shows that the blood serum and urine of eclamptic patients is toxic for guinea pigs. The pigs died with the symptoms of anaphylactic shock after intracardiac injection of the toxic serum. The liquor amnii was non-toxic. The toxicity of the urine disappears soon after delivery. It is independent of specific gravity, of acidity and of true albumin control of the urine and is not destroyed by repeated boiling. [G. C. S.]

#### No. 10. MARCH 5, 1912.

1. LINDNER, H. *Gastric Ulcer from the Surgical Standpoint.* (To be concluded.)
2. PFEIFER, B. *Histological Diagnosis of Progressive Paralysis by Brain Puncture.*
3. ASCOLI, G., AND LEGNANI, T. *Results of Extirpation of the Hypophysis.*
4. SIMON, J. *Treatment of Gonorrhea with Arthigon.*
5. NASSAUER, M. *Treatment of the Vagina with Powder.* (To be concluded.)
6. KONDOLEON, E. *Lymphatic Drainage as a Cure for Chronic Edema after Contusion.*
7. VOSS. *Abortive Treatment of Primary Lues.*
8. NOCHTE. *A Case of Malignant Brain Tumor Treated with Salvarsan.*
9. VILLINGER, A. *Etiology of Meta-Syphilis.*
10. HOFMANN, A. *Painting the Peritoneum with Tincture of Iodine for Tuberculous Peritonitis.*
11. WURM. *A New Preparation to Protect the Healthy Skin from Röntgen Rays.*
12. KENNERKNECHT, K. *Treatment of Spina Ventosa with Pyrogallol Ointment.*
13. POPIELSKI, L. *Action of Organ Extracts and the Theory of the Hormone.*
14. VÖRNER, H. *Primary Efflorescence or Primary Lesion of Lupus.*
15. VULPIUS, O. *Plate Treatment of Flat Foot.*
16. ORTNER, N. *Jerky Expiration in Aneurysm of the Aorta.*
17. FELLNER, O. O. *Thrombosis and Internal Secretion?*
18. LOENING. *Phenyldimethylpyrazolonamidomethansulphonacid Sodium, a New Antipyretic and Specific for Acute Rheumatism.*

#### BERLINER KLINISCHE WOCHENSCHRIFT. No. 1.

JAN. 1, 1912.

1. \*BONHOEFFER, K. *The Differential Diagnosis of Neurasthenia and Endogenous Depression.*
2. V. WASSERMANN, A., V. HANSEMANN, D., KEYSER, F.,



- AND WASSERMANN, M. *A Chemotherapeutic Research on Animals Afflicted with Tumors.*
3. \*LEVY-DORN, M. *Permanent Results on Sarcoma by Röntgen Therapy.*
  4. HADDA, S. *The Cultivation of Living Body Cells.*
  5. SCHILLING, C. *The Sleeping Sickness in New Guinea and the Prospect of Its Suppression.*
  6. PICK, L. *Embryonic Ganglioma of the Sympathetic Nervous System (Continued.)*
  7. RIDDER, F. *Fat in the Urine in Chronic Parenchymatous Nephritis.*

1. The author believes that there are too many diagnoses of neurasthenia made in the big clinics without sufficient study for the underlying cause which is causing the trouble. This leads to a peculiar idea in the minds of many in regard to the prognosis of neurasthenia. He believes that the differential diagnosis is an easy one to make if the case is carefully studied, and he deplors the diagnosis of neurasthenia unless it is definitely shown that there is not some physical cause which may be at the bottom of the depression.

3. The author reports two cases of sarcoma cured by the use of the x-ray. The first, a lymphosarcoma of the neck, proved by microscopic examination, has remained free from trouble for six years. The second case was a periosteal sarcoma of the femur, and has remained free from trouble for five years and seven months, following exposure to the x-ray. [J. B. S., Jr.]

#### NO. 2. JAN. 8, 1912.

1. TIETZE, A. *Pyogenic Kidney Infection.*
2. KOHLER, J. *A Collection of Accident Cases.*
3. MEYER, H., AND RITTER, H. *A Method for the Qualitative Estimation of the Ray in Röntgen Therapy.*
4. HECHT, H. *An Agglutination Reaction by Karvonen's Method.*
5. BRIEGER, L., AND KRAUSE, M. *The Medical Treatment of Artificial Trypanosome Infection.*
6. SCHEMEL AND EICHLER. *Estimation of the Temperature in the Intestines by the Apparatus of Siemens and Halske in Various Hydrotherapeutic Procedures.*
7. THOMSEN, O. *An Experimental Research Concerning Poliomyelitis.*
8. \*TAKATA, K. *Auscultation by the Mouth.*
9. PICK, L. *Embryonic Ganglioma of the Sympathetic Nervous System. (Conclusion.)*
10. \*LAZARUS, P. *A Duodenal Sound.*
11. FRANK, F. *Nerve Resection in Gastric Crises.*

8. The author describes a method of oral auscultation, which consists in listening to the slow, deep breathing of a patient through his mouth. He claims various conveniences for the method, such as the non-necessity of undressing, and the non-necessity of lying down. He further states that it is much easier to distinguish trouble in conditions like central pneumonia and very early phthisis, than by what he calls the Lænnec method. He gives a well-systematized list of breathing which is heard in various lung and heart conditions, but states that he has not been able as yet to hear pleuritic or pericarditic friction sounds. He urges a trial of the method in large clinics, where speed is a requisite.

10. The author describes an apparatus for the closer study of the duodenum and points out its diagnostic and therapeutic value. It consists of a long tube, somewhat thinner than an ordinary stomach tube and also longer, connected to an aspiration and injection apparatus. By these the contents of the duodenum can be withdrawn, or drugs can be injected directly into the duodenum. He believes that it is of particular value in the diagnosis of duodenal ulcer and possibly in its treatment. [J. B. S., Jr.]

#### NO. 3. JAN. 15, 1912.

1. STILLER, B. *The Phthisical Thorax and the Tubercular Disposition.*
2. AUFRECHT. *Percussion and Auscultation.*
3. PLEHN. *Syphilitic Polyneuritis.*
4. VORBRODT, M., AND KAFKA, V. *The Use of Enesol in Diseases following Syphilis.*
5. BAGROW, S. L. *The Use of the Rectum in Salvarsan Therapy.*

6. BENEUR, J. *Results of Treatment with Radium Emanations.*
7. LOEWY, A. *A Research Concerning the Effect of Radium Emanations on the Circulatory System.*
8. RITTER, C. *The Technic of Rib Resection.*
9. EINHORN, M. *Agar as a Vehicle in Intestinal Therapeutics.*
10. PFEIFFER, E. *The Esbach and Aufrecht Methods of Quantitating the Albumin in the Urine.*
11. TRAUGOTT, R. *Adalin.*
12. NAGELSMIDT, F. *A Short Report Concerning the Value of Fluorescent Materials.*

#### WIENER KLINISCHE WOCHENSCHRIFT. NO. 11.

MARCH 14, 1912.

1. V. JAUREGG, W. *Morbid Impulsions.*
2. FINSTERER, H. *Bradycardia in Ruptures of the Liver.*
3. ST. BERNHEIMER. *Indicanuria and Eye Diseases.*
4. \*KREUZFUCHS, S. *Röntgen Observations in Duodenal Ulcer.*
5. PODZAHRADSKY, O. *A Case of Monamniotic Twins.*
6. GOLDMANN, R. *Bilateral Facial-Acoustic Paralysis after Salvarsan.*

4. Kreuzfuchs considers that the Röntgen finding in ulcer of the duodenum is typical. There is hypertonus and accelerated emptying of the stomach, sometimes with persistence of bismuth specks in the duodenum. The gastric hyperactivity is to be referred to the depression of the normal duodenal reflexes. [R. M. G.]

#### DEUTSCHE ZEITSCHRIFT FÜR CHIRURGIE. Bd. 113.

HEFT. 5-6. FEBRUARY, 1912.

1. FRANK, K. *Ureterostomy.*
2. ZOLLOINGER, F. *Predisposition to Hernia, and Traumatic Hernia.*
3. \*DASCHKELEW, N. J., AND PETROW, N. N. *Extensive Bone Transplantation.*
4. BRÜNING, A. *The Problem of Narcosis, Especially the Use of Oxygen and Compressed Air.*
5. WINTWARTER, F. R. *Two Cases of Injury to the Duodenum.*

3. The authors have reviewed the literature with considerable care, outlining the various attempts that have been made to solve the problem of bone transplantation. They then detail their own experiments on animals, and their observations made in various cases. The article contains numerous illustrations showing the changes which occur, both microscopically and by means of the x-ray. Their conclusions are as follows:

(a) The greater part of the body of the bone which has been extensively transplanted, soon dies. Some of it which is especially hardy or has been very well nourished may remain alive for a long time, but it, too, eventually dies.

(b) In order that regeneration may take place, the combined transplantation of periosteum and bone marrow is not necessary.

(c) Autoplastic pieces of bone are superior to homoplastic pieces.

(d) The chief source of the regeneration in extensive bone transplantation occurs in the young bone growing around and into the muscle layer surrounding it; all the marrow, blood vessels and canals penetrate it, and change to osteoblasts and bone cells.

(e) The periosteum and endosteum both partly necrose. The remainder may regenerate and also produce new bone, but the durability of this is questionable. The superiority of periosteum covered flaps should not be doubted, however. The rôle of the transplanted periosteum is not yet clear, but it is undoubtedly useful. The more rapid coalescence and healing of the graft to the mother bone, the prevention of a too-rapid reabsorption, and the first impulse to new bone regeneration are some of the advantages which the transplanted periosteum gives.

(f) The transplantation of dead bone has very little effect, even after a long time, and even if impacted. The fundamental principle of osteoplastic work, therefore, is the use of living bone.

(g) The action of the connective tissue substance of

the parent bone is extremely injurious to the grafted bone, no matter what is used. The success of the grafting apparently depends on the chemical affinity of the two pieces which are to be brought together, and the best method for bringing this about is still in doubt. [J. B. S., Jr.]

# ZEITSCHRIFT FÜR KLINISCHE MEDIZIN.

## BAND 73. HEFT. 5 AND 6.

1. PORGES, O., LEIMDOERFER and MARKOVICI. *The Carbonic Acid Tension of the Blood in Pathological Conditions.*
2. MAGNUS-ALSBLEEN, E. *The Acids of the Urine.*
3. \*ORIGAARD, A. *Treatment of Syphilitic Heart and Vascular Disease.*
4. \*KOESTER, H. *Pleuritis and Tuberculosis.*
5. CHVOSTEK, F. *Xanthelasma and Icterus.*

3. In a citation of twenty cases the author shows the value of the Wassermann reaction in diagnosis and treatment of aneurysm, aortic insufficiency and syphilitic aortitis. Mercury and iodine-mercury preparations were exclusively used. Iodine alone is of no use in treatment of these conditions. The reaction, usually strongly positive at onset, rapidly becomes negative coincident with improvement in the patient's condition.

4. Koester had the opportunity of compiling statistics from a large number of cases of idiopathic pleurisy observed over a long period of time. He finds in serous pleurisy in adults that at least one half later develop tuberculosis, in children one third. The tuberculosis in these cases almost always makes its appearance within five years of the pleurisy, but may be postponed many years. In idiopathic dry pleurisy the sequence of tuberculosis is nearly as frequent as in serous pleuritis. [J. B. A.]

## BAND 74. HEFT. 1 AND 2.

1. FRANK, E., AND ISAAC, S. *Acute Generalized Hyperplasia of Small Lymphocytes of the Lymph Glands in Chronic Myeloid Leukemia.*
2. \*PLETNEW, D. *A Case of Dissociation (Heart).*
3. SHEEL, O. *On the Recognition of Bile Coloring Matter in the Blood Serum and Its Clinical Significance.*
4. \*MUELLER, A. *Examination of Rheumatic Muscle.*
5. \*BENEDICT, H., AND ROTH, N. *The Proteid Katabolism Curve and Its Relation to the Digestive Function of the Stomach.*
6. NEUBERG, A. *So-Called Banti's Disease.*
7. \*FALTA, W., AND KAHN, F. *Clinical Studies in Tetany with Especial Reference to the Vegetative Nervous System.*

2. A case with tracings is given of supposed lesion of the atrio-ventricular bundle.

4. The author by painstaking examination readily distinguishes hypertonic states of muscles, swellings, knots at the insertions and hardening of bundles of fibers. The significance of these lesions he discusses with their clinical bearing.

5. Proteid katabolism as evidenced by amount of nitrogen found in the urine is greatly increased by hyperacidity of the stomach. Motor efficiency without acidity gives a decreased rate of proteid katabolism.

7. In a comprehensive clinical study of twenty-one cases of tetanus the authors review the subject and insist on the importance of certain aspects of this condition, particularly the prominence of disturbance in the vasomotor system and its apparent close connection with changes in the thyroid gland.

A word with regard to the examinations. In the examination of the motor nervous system most importance was laid upon the electrical reactions (Erb's test), occasionally Chvostek and Trousseau and Schlesinger's tests being misleading. The sensory nerves were investigated in the usual ways. In the case of the autonomic system, besides the obvious observations of smooth muscle activity, careful bismuth x-ray observations were made upon the stomach, and adrenalin and pilocarpin used as tests of degree of vasomotor stability.

In the category of disturbed function of the vegetative nervous system in active tetany are the following: Increased heart activity; increased number of red corpuscles which is supposed to be due to spasm of smooth muscle of the blood vessels; edemas, particularly about joints;

cramping of the ciliary muscle; hypersecretion of the following glands: sweat, salivary, tear, stomach and intestinal; spastic conditions of the stomach, frequently seen to remain in hour-glass contracture for long periods of time, perhaps with pylorospasm or with pylorus wide open; disturbance of heat regulation. These conditions are found either during active tetanic spasms or may be proved to be latent by means of adrenalin and pilocarpine injections of minute amount.

Tetany, the authors claim, is a manifestation of overstimulability or of over-stimulation of the whole nervous system, especially, however, of the ganglion cells of the peripheral nerves, but also affecting higher centers. As evidence of the latter, the authors had two cases of coincident typical epilepsy and tetany. In many cases they found mild swelling of the thyroid gland following acute tetany, and call to mind experimental and clinical evidence to establish the association of this gland with tetany, such as the myxedematous swellings and expression seen during an attack, presence of trophic disturbances which disappear with thyroid administration, etc. As to etiology, extirpation of the epithelial bodies always causes tetany, but disease of these glands does not explain all cases. Their hypothesis is this: The epithelial bodies control normally the stimulability of the ganglion cells (perhaps through increased calcium assimilation). Through insufficiency of function of these glands against either normal or increased demand (gastro-intestinal stasis, intoxications, etc.), overstimulation of the nervous system results.

[J. B. A.]

## Correspondence.

### EPIDEMIC TONSILLITIS: AN AIR-BORNE INFECTION.

MARCH 29, 1912.

Mr. Editor: In your recent editorial upon "Streptococcal Tonsillitis" you have given evidence of your belief with that of my own that epidemics of this character are never anything, primarily, but air-borne infections. Permit me to assist you by going further into the etiology of these infectious diseases to tell what a tonsillitis consists in. One naturally looks at those parts of the body most easily reached, and inspects the throat, after seeing the teeth and tongue. Seldom or never does he use the "rhinoscope," or post-nasal mirror. This causes the original and only site of infection, Luschka's, or the first tonsil, to escape observation.

At the first indication of dysphagia, or even soreness, the region of the rhinopharynx will be found inflamed, often covered with dust and tenacious mucus, or in later stages of the infectious processes with pus and blood. Secondary involvement of the faucial tonsils will be shown by enlargement, by exudative material in their crypts or by actual membranous formation upon and into their surfaces.

Toxins have already entered the system through the lymph vessels long before marked local changes occur in the throat or nasopharynx even. The evidences of their presence are the rise in temperature, the feeling of weakness, the chilly sensations, headaches (perhaps) and backache. It is of the utmost importance, if the physician wishes to see his patient saved from the "sequela," to consider these diseases of the "nasopharynx" local affections rather than the "local manifestations of a general systemic infection."

The sooner we recognize "tonsillitis" to be a disease of an infectious character and an inflammation of this first (nasopharyngeal) tonsil, whether "streptococcal" or tuberculous, variolous, rubeolous or due to some or any organism liable to cause these and the various other air-borne infections, the more able shall we become to combat epidemics of any sort.

I should like your editorial better had you emphasized more strongly the very pertinent fact that the "tonsillitis" epidemic of 1911 was also air-borne and not due to the ingestion of milk.

Truly yours,

EDMUND D. SPEAR, M.D.

## ANOTHER INSTANCE OF A DISLOCATED OPAQUE LENS.

MARCH 30, 1912.

*Mr. Editor:* In February, 1877, a man of forty, an accountant, was referred by an insurance company because the vision of his left eye was poor. The right eye was normal, while the left was cataractous. After ten years, opacities had formed in the right lens, interfering with vision.

In December, 1889, he noticed "stars" and the vision of the left eye improved. The opaque lens had slipped down so only the upper rim could be seen. It seemed to be attached to the capsule below. Mr. W. sought an optician and with his glasses his vision was  $\frac{1}{2}$ . The right lens had become wholly opaque.

The left continued useful till his death, from pneumonia, two years ago. It had never been inflamed and he had no operation.

D. C.

## CULTURES OF STREPTOCOCCUS THROAT INFECTIONS DESIRED.

BOSTON, March 30, 1912.

*Mr. Editor:* The Department of Bacteriology of the Harvard Medical School desires to secure a series of cultures from abscesses or other complications following streptococcus throat infection. If such cases occur in the practice of any of your readers, a favor would be conferred by having cultures made (best at the time of operation) and forwarded to the Medical School. Material for making the cultures will be sent if the department is notified by telephone in time. If desired, Professor Wolbach or Dr. Dana will attend the operation and make the cultures in person.

Very truly yours,

HAROLD C. ERNST, M.D.

## HEREDITY OF ORAL DEFECTS. HISTORIES DESIRED.

EUGENICS RECORD OFFICE.

COLD SPRING HARBOR,  
LONG ISLAND, N. Y.,

March 26, 1912.

*Mr. Editor:* The undersigned are engaged in a study of heredity of hare lip, cleft palate and associated malformations of the oral cavity. We solicit correspondence with physicians who can supply histories of families more than one member of which has an oral defect. Such data will be held as strictly confidential and will be used solely to aid in the solution of a problem which is not only of scientific but of humanitarian interest.

C. B. DAVENPORT.  
W. F. BLADES.

## RESIGNATION.

DR. HENRY A. CHRISTIAN has resigned as physician-in-chief at the Carney Hospital, to take effect June 1, and has been granted leave of absence from April 1.

## SOCIETY NOTICE.

**AMERICAN MEDICAL EDITORS' ASSOCIATION.**—The annual meeting of the society will be held at Atlantic City, N. J., on June 1 and 2, with headquarters at the Marlborough-Blenheim Hotel. Dr. Thomas L. Stedman, editor of the *Medical Record*, will preside, and an attractive program is being prepared. The annual banquet will be held on the evening of June 3. Every editor and those associated in medical journalistic work will find this meeting worth attending.

## RECENT DEATHS.

DR. JOSEPH JOHNSTONE, who died on March 26, at Bluefields, Nicaragua, was born in Scotland in 1849. At the close of an active professional life in his native country, he was appointed British consul at Bluefields in 1911.

DR. GEORGE C. RHOADS, who died on March 29 in Springfield, Mass., was born at Richmond, Vt., in 1859. After graduating from the University of Vermont, he studied medicine at the Hahnemann Medical College in Philadelphia, from which he received the degree of M.D. in 1889. After practicing his profession successively in Fitchburg and in Winchendon, Mass., he settled at Springfield in 1894 and devoted himself to ophthalmology and otology. He was a member of the Springfield Academy of Medicine and of the Homeopathic Medical Society of Western Massachusetts, and was on the staff of the Wesson Memorial Hospital at Springfield. He is survived by his widow, by one daughter, and by one son.

DR. ANNIE M. TREMAINE, who died on March 25, in Willard, N. Y., was born at Fredonia, N. Y., in 1865. After studying medicine at Cornell University, at the Woman's Medical College, New York, and in Vienna, she became one of the resident physicians at the Craig Colony for Epileptics at Sonoma, N. Y.

DR. WALTER JAMES WEBB, who died on March 24 at Cambridge, Mass., was born in Canada in 1870. After graduating from Bishop's College, Montreal, he received the degree of M.D. from McGill University in 1897, and since that time had practiced his profession at Cambridge. He was a Fellow of The Massachusetts Medical Society and a member of the Cambridge Medical Improvement Society.

DR. JAMES H. STERNBERG, a retired physician and one of the most prominent citizens of Waterloo, Seneca County, N. Y., died suddenly on March 26, at the age of seventy-nine years. He was graduated from Jefferson Medical College, Philadelphia, in 1886.

DR. WILLIAM E. HYDE, who died on March 30 at Danielson, Conn., was born in 1844. He was a veteran of the Civil War, and since its close had practiced dentistry in Danielson.

## BOOKS AND PAMPHLETS RECEIVED.

Prospectus, Fourth Reports, Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. London: Baillière, Tindall & Cox.

Fourth Scientific Report of the Investigations of the Imperial Cancer Research Fund. By Dr. E. F. Bashford. London: Taylor & Francis.

Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Vol. A. Medical. Andrew Balfour, Director. New York, N. Y.: Toga Publishing Co.

## RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, MARCH 23, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	16	1
Chicago.....	713	198	Waltham.....	8	1
Philadelphia.....	—	—	Brookline.....	6	—
St. Louis.....	—	—	Chicopee.....	3	2
Baltimore.....	—	—	Gloucester.....	9	1
Cleveland.....	—	—	Medford.....	5	—
Buffalo.....	—	—	North Adams.....	2	—
Pittsburg.....	—	—	Northampton.....	9	2
Cincinnati.....	—	—	Beverly.....	4	—
Milwaukee.....	—	—	Revere.....	3	2
Washington.....	—	—	Leominster.....	2	—
Providence.....	—	—	Attleboro.....	1	0
Boston.....	241	50	Westfield.....	8	1
Worcester.....	42	8	Peabody.....	—	—
Fall River.....	33	15	Melrose.....	7	1
Lowell.....	28	9	Woburn.....	10	0
Cambridge.....	33	12	Newburyport.....	4	—
New Bedford.....	41	18	Gardner.....	2	1
Lynn.....	18	4	Marlboro.....	3	0
Springfield.....	39	8	Clinton.....	5	1
Lawrence.....	31	11	Milford.....	—	—
Somerville.....	—	—	Adams.....	3	0
Holyoke.....	16	4	Framingham.....	—	—
Brockton.....	23	9	Weymouth.....	—	—
Malden.....	10	5	Watertown.....	5	2
Haverhill.....	17	3	Southbridge.....	1	—
Salem.....	13	4	Plymouth.....	—	—
Newton.....	12	2	Webster.....	5	—
Fitchburg.....	9	3	Methuen.....	—	—
Taunton.....	18	6	Wakefield.....	4	1
Everett.....	10	5	Arlington.....	3	1
Quincy.....	—	—	Greenfield.....	1	1
Chelsea.....	3	—	Winthrop.....	4	—

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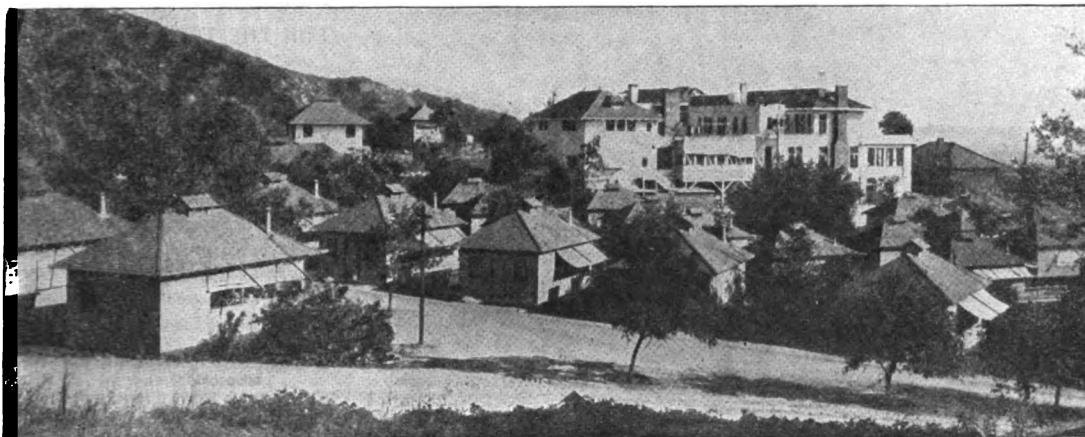
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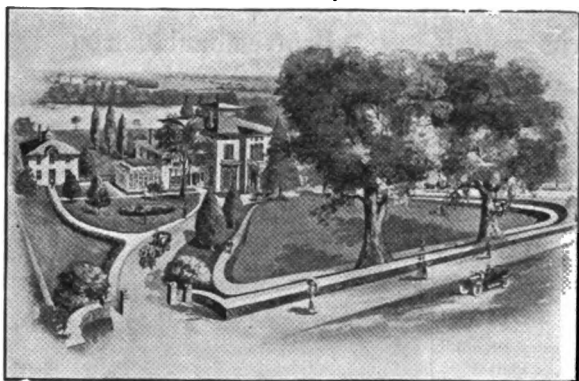
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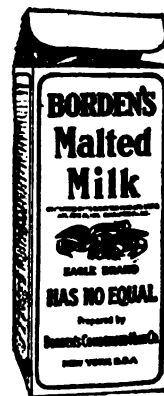
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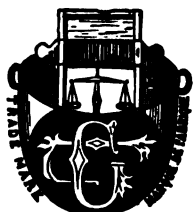
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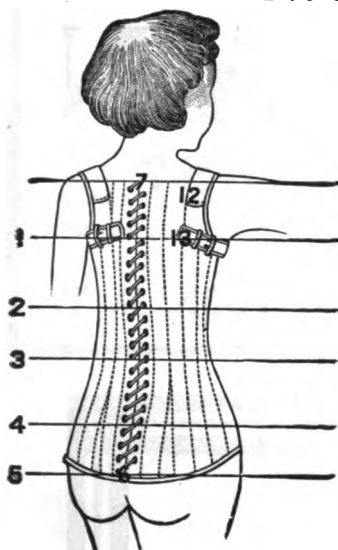
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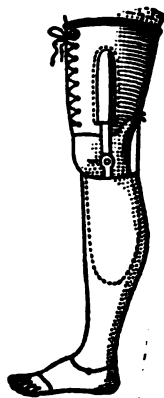
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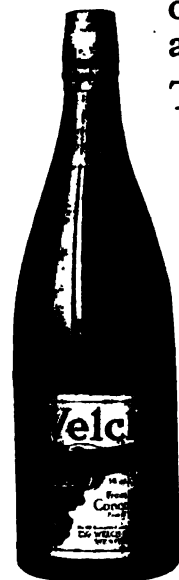
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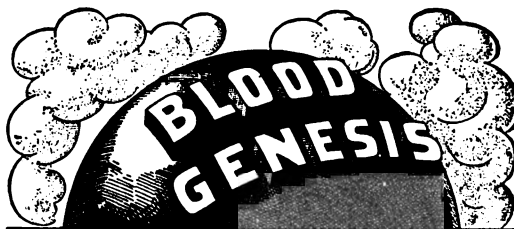
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## Original Articles.

CHRONIC ULCER OR CHRONIC INDIGESTION.  
ITS SUCCESSFUL TREATMENT BY SURGICAL  
MEASURES. A REPORT OF TWENTY-FIVE  
CASES.

BY CHARLES L. SCUDDER, M.D., BOSTON,

*Surgeon to the Massachusetts General Hospital; Lecturer on Surgery  
at the Harvard Medical School, Boston.*

CASES of intractable recurring dyspepsia in adult life are probably often cases of chronic duodenal or gastric ulcer.

Cases of chronic ulcer of either the stomach or duodenum which have remained unhealed, as indicated by a persistence of symptoms, after carefully conducted and skilled medical treatment for a period of from two to three months or longer are at present best treated by surgical measures.

The reasons for surgical treatment in such cases are:

1. Medical treatment has failed to cure the trouble.
2. The exact duration and extent of the ulcer is unknown. Hemorrhage may occur and death result.
3. The stomach and duodenum may be perforated by the ulcer.
4. Carcinoma may develop upon the ulcer.
5. Obstruction at the pylorus may occur.
6. If untreated surgically, a still longer period of chronic invalidism will exist.
7. Surgery has demonstrated that it is possible to cure a large proportion of these chronic ulcers.

The surgeon sees chiefly the cases of chronic ulcer that are rebellious to medical treatment. I believe that it is possible to come near enough to a diagnosis of chronic ulcer to justify an exploratory operation before there is evident stasis (whether microscopical or gross) or hemorrhage. That is, when ulcer is strongly suspected, even if stasis or hemorrhage are not present, if medical treatment has failed to effect a cure, an exploratory operation is good surgery.

The twenty-five cases of chronic ulcer here recorded represent cases which had failed to be cured by medical treatment. At best they had had only temporary relief from acute symptoms under medical treatment. They have all, with two exceptions, been followed in their life history since operation. With one exception these have remained practically well for from one and nearly two to seven years following the surgical treatment. This time of freedom from symptoms is longer than the longest interval between attacks in any of these cases under medical treatment. In other words, the surgical treatment of these cases (each instance being a case of demonstrated gastric or duodenal ulcer or its sequelæ) has proved of greater value than the medical treatment.

This group of cases of chronic indigestion demonstrates that modern surgical methods do assist in the healing of certain chronic ulcers. This group of cases represents the cases of chronic

ulcer that I have operated upon, during a definite period, in both public and private clinic.

Most of the cases here recorded were studied in the medical wards of the Massachusetts General Hospital. The findings in the cases so studied were determined by the Medical Service.

There were twenty-five cases and twenty-seven operations. Two cases were operated after the ulcer had perforated and had been sutured; hence the two additional operations.

Fifteen were cases of obstruction at the pylorus or hour-glass deformity at the middle of the stomach. Five presented no obstruction at the pylorus; four were perforated gastric ulcers; one was a perforated duodenal ulcer.

There were two deaths in this group of cases; one from perforation of a gastric ulcer near the pylorus and one following partial gastrectomy among the early cases due to a mechanical difficulty. There have been no deaths following the simple posterior gastro-enterostomy. There have been no cases with the vicious circle or vomiting due to obstruction distal to the new stoma. There have been no cases of gastro-jejunal ulcer near the anastomotic opening.

These cases have had symptoms of dyspepsia and have been invalided many months or many years. Eleven of these cases have had trouble with digestion for from five to twenty-five years. Seven have had trouble for from one to five years. Five have had trouble for many months (the exact number is not known). Two cases have had trouble for several years. During all these years they have all had more or less routine medical care.

There is little doubt that a few of these cases, at the early stage of the disease, might have been cured by proper persistent medical treatment.

That medical methods can cure a certain proportion of chronic ulcers of the stomach and duodenum is probably true.

My contention is that in this group we have a type of ulcer that was not cured by ordinary medical means. Surgery has shown that it can assist in the cure of ulcers of this chronic type.

If these cases had been diagnosed as cases of chronic duodenal or gastric ulcer earlier in the course of each case, and if a safe surgical treatment had been instituted in each of these cases at an earlier stage of the chronic ulceration, it is fair to conclude: (1) That many years of chronic distress and invalidism would have been avoided; (2) that terminal conditions, such as pyloric obstruction, hemorrhage and perforation would have been absent in these cases; (3) that probably a more rapid healing of the ulcer would have occurred than did occur in each instance.

## CASES OF CHRONIC GASTRIC OR DUODENAL ULCER.

CASE No. 1. M. C. M. A woman of thirty-eight years. Patient of Dr. E. G. Cutler. The patient entered the hospital June 6, 1904. The diagnosis was chronic gastric ulcer with hour-glass constriction. There was a history of stomach trouble for ten years. The symptoms lasted three weeks, with vomiting and a loss of 19 lb. in weight. At examination the patient

was found to be in fair condition. There was no report of the stomach contents obtained.

At the operation a constriction of the middle of the stomach was found, forming a hard mass the size of a lemon, for which gastro-enterostomy and gastro-duodenostomy were done.

The patient made very satisfactory progress after the operation.

A report by letter, July, 1910, six years after the operation, states that the patient has gained 24 lb. in weight. She never vomits unless over-tired. She has to be careful about her diet. She considers herself well.

CASE No. 2. E. F. A woman thirty-eight years old. Patient of Dr. N. F. Chandler, Medford, Mass. The patient entered the hospital Sept. 2, 1904. There was a history of stomach trouble for five years, an acute attack with vomiting beginning two weeks previous to admission.

The fasting contents were oz. ii. No lactic acid. Free HCl, .018%. Total acidity, .025%. Guaiac test positive. Test meal, oz. iv. No lactic acid. Free HCl, .011%. Total acidity, .0219%. Capacity, oz. xiii. The diagnosis was gastric ulcer.

At the operation on the anterior surface of the stomach was found a large indurated mass. The stomach was resected. A Kocher gastro-duodenostomy was done.

The patient got along fairly well on rectal feeding, but began to vomit when given food. The wound was opened and an obstruction was found at the seat of the anastomosis. Death followed.

CASE No. 3. P. J. S. A man forty-five years old. Patient of Dr. E. G. Cutler. The patient entered the hospital Aug. 7, 1905. There was a history of stomach trouble for twenty-five years, with acute attacks during the last two months. The patient was emaciated, and his face was ashen gray.

The stomach capacity was oz. xvi. The test meal showed oz. iss of finely digested food. No blood nor sarcinae. Some mucus. Free HCl, .073%. Total acidity, .16%. Lactic acid negative. The diagnosis was probably carcinoma of the stomach.

At the operation a hard mass was found on the lesser curvature of the stomach at the pyloric end due to the cicatrix of an old ulcer. A posterior gastro-enterostomy was done. The patient made a slow but steady improvement and was discharged in good condition.

He was seen six years later, and has had no disturbance with the stomach since operation. The diagnosis was wrong in that the hard mass was due to the induration from old ulcer and not cancer.

CASE No. 4. F. A. R. A patient of Dr. H. F. Hewes. A man fifty-three years of age. The patient entered a hospital Feb. 29, 1906. There was a history of stomach trouble for eight years. He had had distress in the epigastrium at night while at work and occasionally in the day time. For three years he had pain in the right costal border. For one and one-half years he vomited every three to four nights. The vomitus was large in amount and very acid. The distress at present comes a few hours after eating. It is a dull, heavy, dragging pain relieved by vomiting. Fasting contents twelve hours after taking food, 200 ccm. Much food sarcinae. HCl present. No blood. Stomach large. Daily lavage relieved him for some months. He had lost 45 lb. The diagnosis was a gastric ulcer.

An indurated ulcer was found at operation in the gastric wall near the pylorus. A posterior gastro-enterostomy was done.

The patient recovered.

Five years later, in 1911, he reported himself as well as ever.

CASE No. 5. L. W. A man forty-four years old. Patient of Dr. J. H. Pratt. The patient entered the hospital July 24, 1906. There was a history of stomach trouble of two years' duration. There was a loss of weight of fifty pounds, but the patient was in fair condition.

The fasting stomach contents were 680 ccm., greenish color, with much undigested food. Free HCl, .124%. The total HCl, .25%. Much pus. Many sarcinae. Yeast. Lactic acid absent. Test meal contained free HCl, .25%. Evidences of obstruction—200 ccm. in amount. Sour. Sarcinae present. Yeast present. No blood. No lactic acid. The diagnosis was gastric ulcer.

At the operation a mass beginning at the pylorus was found extending two inches upon the posterior wall. Partial gastrectomy and posterior gastro-enterostomy were done.

The patient made an uneventful convalescence. He was discharged much relieved.

The patient was seen personally some two years later and was well.

CASE No. 6. C. A. H. Patient of Dr. F. E. Garland. A woman fifty-four years of age. The patient entered a hospital Nov. 16, 1906. There was a history of indigestion for several years. She had lost in weight from 137 lb. to 94 lb. Two weeks previous to operation she had begun to vomit. The diagnosis was gastric ulcer.

At operation there was found a large chronic ulcer mass obstructing the pylorus. A posterior gastro-enterostomy was done.

Five years subsequently she writes that she has no trouble whatever. She eats anything she wishes without subsequent discomfort.

CASE No. 7. B. S. A man thirty-two years old. Patient of Dr. F. C. Shattuck. The patient entered the hospital Feb. 18, 1908. There was a history of ulcer symptoms for five months. He was eating well, but vomiting daily. He had lost twenty-eight pounds in weight.

The fasting stomach contents were oz. ix. Free HCl, .113%. Total acidity, .1679%. Guaiac test was negative. The diagnosis was chronic gastric ulcer.

At the operation dense adhesions, evidently surrounding an old ulcer, were found about the pylorus. A posterior gastro-enterostomy was done.

The patient was in good condition following the operation and had no gastric symptoms.

The patient was seen Feb. 17, 1911, three years after the operation. He has no trouble with food or stomach. He is poor, and eats bread and herring.

CASE No. 8. G. A. A man forty-nine years old. Patient of Dr. F. C. Shattuck and Dr. Leach, Orange, Mass. The patient entered the hospital Feb. 24, 1908. There was a history of stomach trouble for one year. He has pain, cramps and vomiting following ingestion of ordinary food. He has lost flesh, about 35 lb. in one year.

The fasting stomach contents were oz. ii. The capacity was oz. cx. Free HCl. Guaiac test was negative. The test meal contained brown and white streaks, undigested bread and fluid. Free HCl, .268%. Total acidity, .292%. The diagnosis was pyloric obstruction.

At operation there was found a mass causing a stricture on the gastric side of the pylorus. A posterior gastro-enterostomy was done. This man was thought to have a chronic ulcer mass.

His condition following operation was satisfactory. His food caused no distress.

No remote result has been obtained.

CASE No. 9. T. M. A man forty-six years old.

Patient of Dr. F. C. Shattuck. The patient entered the hospital Feb. 26, 1908. There was a history of stomach trouble off and on for ten years. Pain radiating to the back. Vomiting large quantities daily. Vomiting not especially related to eating. Loss of twenty-five pounds in weight.

The fasting stomach contents showed free HCl. Guaiac negative. The test meal contained free HCl, .266%. Total acidity, .378%. Guaiac negative. The diagnosis was an old pyloric ulcer.

At operation an indurated area was found surrounding the pylorus. There were enlarged glands below the pylorus. Partial gastrectomy and posterior gastro-enterostomy were done.

The patient made a steady improvement following the operation. He was discharged well.

February, 1911, three years later, the patient reports that he is perfectly well. He has no trouble with his food.

CASE No. 10. H. F. M. A man thirty-four years of age. Patient of Dr. W. W. Gannett. The patient entered the hospital May 7, 1908. There was a history of attacks of stomach trouble for nine years. The attacks were characterized by sour stomach, epigastric pain and vomiting. The vomitus and dejections have each contained blood at times. Three years previously he first vomited blood. The last attack occurred within a month of entrance. He is pretty well at present.

The fasting stomach contents was a small amount of greenish fluid containing some mucus, no blood, free HCl, .128%, and the total acidity, .258%. The test meal was oz. vi of water and partially digested bread. No blood. Free HCl, .229%. Total acidity, .335%. Total capacity was oz. xxiv. The diagnosis was ulcer near the pylorus.

At the operation an ulcer with much induration was found constricting the pylorus. A posterior gastro-enterostomy was done.

Following the operation the patient was comfortable and had no trouble with food.

He reported by letter July 11, 1909, a year later, "My general health is good, appetite fine. I am eating almost everything. Have not had any symptoms of the ulcer; no pain and very little gas."

March 20, 1911, he writes in reply to inquiry as to his health, "I am in excellent physical condition."

CASE No. 11. J. J. D. A man twenty-eight years old. Patient of Dr. H. F. Vickery. The patient entered the hospital Feb. 15, 1909. There was a history of troublesome indigestion off and on for several years. The patient was in good condition.

The fasting stomach contents were 30 ccm. of yellow, slightly glairy fluid. There was no excess mucus. Free HCl. Guaiac negative. A rare, partly digested muscle fiber and starch granule. The test meal was 150 ccm. of turbid fluid, and a large amount of finely divided bread. Free HCl, .127%. Total acidity, .25%. Guaiac negative. No excess mucus. The diagnosis was a tumor of the pylorus.

At the operation a hard tumor was found at the pylorus the size of two thumbs, and also two hard, enlarged glands. A posterior gastro-enterostomy was done.

Following the operation the patient steadily improved.

March 11, 1910, one year later, the patient reported that he was much improved by the operation. He has gained in weight and has a good appetite.

April, 1911, he reports, "I work every day and in the best of health," two years after operation.

CASE No. 12. O. M. S. A man thirty-six years of age. Patient of Dr. W. W. Gannett. The patient

entered the hospital April 21, 1909. There was a history of ulcer symptoms for eight months. Epigastric pain relieved by food and vomiting. Later pain appeared two hours after eating. He had lost a little flesh, but was in good general condition.

The fasting stomach contents were 100 ccm. of green, transparent, thin fluid. No sarcinae, yeast nor bacilli. Free HCl. Bile test positive. No lactic acid. Test meal contained 5 ccm. Free HCl, .18%. Total acidity, .29%. Guaiac intense in stool. The diagnosis was gastric ulcer.

At operation a tumor, two inches by one inch, was found at the pylorus. A posterior gastro-enterostomy was done.

The patient did extremely well following the operation.

February, 1911, two years after operation, the patient was seen. The wound was well healed. He had no gas, no acid. The stomach was all right. Bowels costive. Health perfect.

CASE No. 13. D. D. A man forty-nine years old. Patient of Dr. George Sheehan, Quincy, Mass. The patient entered the hospital May 19, 1909. For eighteen years he has had indigestion, constipation, sour stomach, vomiting, pain in epigastrium. Pain radiates at times to back. Appetite is good. Food relieves gastric distress. Sodium bicarbonate relieves gastric distress. The pain and distress in stomach felt in the epigastrium keeps him awake at night. There was a history of more severe symptoms for thirteen months. He had lived on bread and milk, and had lost fifteen pounds.

The fasting stomach contents were oz. iv of slightly turbid fluid. There was some undigested food. A little mucus. Free HCl, .04%. Total acidity, .0584%. Lactic acid negative. A slight amount of blood. The test meal contained oz. ivss of slightly turbid, pale green fluid. Considerable mucus. Free HCl, .208%. Total acidity, .281%. Lactic acid negative. Blood negative. The diagnosis was gastric ulcer.

At the operation a mass was found in the lesser curvature of the stomach, evidently ulcer. A posterior gastro-enterostomy was done.

The patient made a good recovery and was discharged much relieved.

February, 1911. The patient was seen, two years following operation. He has no trouble with his stomach. Eats anything. No acid. No gas. Works hard as a stone cutter.

CASE No. 14. A. T. A man twenty-eight years old. Patient of Dr. J. J. Minot. The patient entered the hospital March 11, 1910. There was a history of stomach trouble for seven years. He smoked ten cigarettes a day. Sour stomach, gas, pain in epigastrium, vomits every few days (two). Pain is relieved by vomiting. If he does not vomit in the evening, he is awakened in the night by gastric distress and pain. Constipation. For last two years has had heartburn and vomiting after eating, and has lost flesh.

The fasting stomach contents were one quart. HCl positive. Lactic acid positive. Guaiac positive. Capacity 65. Test meal 750 ccm. HCl, free, .17%. Total acidity, .22%. The diagnosis was pyloric obstruction.

At the operation the pylorus was found to be much thickened and surrounded by adhesions. These conditions were evidence of a chronic ulcer. A posterior gastro-enterostomy was done.

The patient's convalescence was uneventful, and he was discharged in good condition.

March 18, 1911. Patient in perfect health. No trouble with food. Works.

CASE No. 15. C. W. A man thirty-eight years of age. Patient of Dr. H. Williams. The patient entered the hospital March, 1910. The diagnosis was

gastric ulcer. There was a history of a previous operation at the Massachusetts General Hospital of suture for a perforated gastric ulcer eight weeks previously. The patient now entered for a recurrence of the previous digestive disturbances.

There was no report of stomach contents.

At the operation firm, well-organized cicatricial bands were found at the pylorus. A posterior gastro-enterostomy was done.

The patient was discharged in excellent condition.

Feb. 16, 1911. Reports that he is fairly careful of diet. No trouble with stomach or food. See Case No. 25 for detailed history previous to perforation.

CASE No. 16. W. N. A man forty-four years of age. Patient of Dr. H. Williams. The patient entered the hospital March 22, 1910. There was a history of suture of a gastric perforation two years previously. The gastric symptoms previous to the acute perforation were comparatively few. During the last two weeks he had constant vomiting and once much blood was vomited. The diagnosis was a gastric ulcer.

The fasting stomach contents were 33 ccm. Acid positive. Free HCl absent. Lactic absent. Guaiac faint. Test meal, 120 ccm. One fourth of the sediment was bread crumbs. Free HCl, .20%. Total acidity, .27%.

At the operation an ulcer was found on the stomach side of the pylorus which puckered in, causing obstruction. A posterior gastro-enterostomy was done.

The patient made an uneventful convalescence and had no trouble with food.

March, 1911, the patient was never better in his life. No symptoms of stomach trouble.

June, 1911. Perfectly well. Working.

CASE No. 17. E. F. M. A woman twenty-seven years of age. Patient of Dr. W. W. Gannett and Dr. John Hildreth, Cambridge. The patient entered the hospital April 20, 1910. There was a history of stomach trouble for seven years, the last year in bed, off and on. She had attacks of vomiting. She had lost 24 lb. in weight. Gastric symptoms, distress after eating, pain to right of epigastrium, gas, sour stomach, nauseated. Four months ago pain most severe; vomited food. Lost weight. Blood is said to have been found in stools. Pain in left upper quadrant relieved by sodium bicarbonate.

The report of the vomitus was 10 ccm. of brownish colored fluid. No free HCl. No lactic acid. Guaiac positive. The diagnosis was gastric ulcer.

At the operation a saddle ulcer was found on the lesser curvature of the stomach. A posterior gastro-enterostomy was done. The patient's condition did not warrant an excision of the ulcer.

She made an uneventful convalescence, and had no trouble with her food.

Feb. 25, 1911. Patient in better health than before the operation. Recently on a more liberal diet. Weighs more than ever before.

October, 1911. Still in good health. Abdomen opened for appendectomy. The indurated mass seen and felt at the original operation in the lesser curvature had entirely disappeared. The gastro-enterostomy stoma was patent. The appendix showed evidences of chronic trouble.

April, 1912. Well and no gastric symptoms.

CASE No. 18. F. P. D. A man twenty-four years of age. The patient entered a hospital July 11, 1904. There was a history of closure of a perforated duodenal ulcer at the Massachusetts General Hospital two months previously. There was now a recurrence of the ulcer symptoms. The diagnosis was duodenal ulcer.

At the operation many adhesions about the first part of the duodenum and the pylorus and hard cica-

tricial tissue were found. A posterior gastro-enterostomy was done.

May 11, 1910, about seven years later, patient reports that he has no trouble with his food. He has no pain, feels well, and is gaining in weight. Both wounds are solid. See Case No. 26 for symptoms at the time of the perforation.

CASE No. 19. T. S. A man fifty years old. Patient of Dr. H. F. Vickery and Dr. C. O. Thompson, Boston. The patient entered the hospital Feb. 19, 1910. There was a history of stomach trouble for one year. He grew much worse the last three months. Gas, distress after eating, constipation, vomiting and nausea. Sodium bicarbonate relieves temporarily. He felt all right when his stomach was empty. He was emaciated.

The fasting stomach contents were oz. xxvi of dark brown, very sour material. Free HCl. Guaiac test positive. There was a large amount of food. Capacity four quarts. The test meal contained free HCl .05%, and a total acidity of .09%. The diagnosis was pyloric stenosis and duodenal ulcer.

At the operation an ulcer was found at the pylorus and a few glands in the greater curvature of the stomach. A posterior gastro-enterostomy was done.

The patient improved slowly, but was discharged in excellent condition.

Patient reported in February, 1911, that he eats almost anything. A little gas pain three hours after eating. Drinks much coffee. Weighs 26 lb. more than before operation.

CASE No. 20. M. J. J. A man thirty-nine years of age. Patient of Dr. F. C. Shattuck and Dr. H. F. Hewes. The patient entered the hospital April 15, 1910. There was a history of stomach trouble for nine years, caused by hard drinking. For the last year he had severe pain and vomiting. He was emaciated.

The test meal contained no mucus and no blood. The food was finely divided. Free HCl, .0365%. Total acidity, .054%. The diagnosis was duodenal ulcer.

At the operation there were found adhesions of the pylorus to the liver and the cicatrix of an old duodenal ulcer partially closing the pylorus. A posterior gastro-enterostomy was done.

The patient steadily improved after the operation. He had no digestive disturbances for some weeks while on a diet.

He entered the hospital in June and July, 1910, for a partial return of symptoms. The operation had not completely relieved him. The x-ray showed that food passed through the stoma. Under stomach washing and diet, he improved but was not well. There was still some stasis. In July, 1911, an infolding of the duodenum at the ulcer site and a second gastro-jejunoscopy beyond the first one were done by another surgeon. This patient is still under observation and is much relieved, but not completely, of all his symptoms. February, 1912, he has had some pain in the abdomen. Recently, he looks much better, feels better, has no vomiting. The x-ray shows the stomata to be functioning satisfactorily. After a somewhat protracted convalescence this man seems to be recovering his health. That this man has been a hard alcoholic drinker is to be reckoned with in judging of his present condition.

#### PERFORATED GASTRIC ULCER.

CASE No. 21. E. J. M. A woman twenty-eight years of age. Patient of Dr. Blanchard, Brookline, Mass. The patient entered the hospital March, 1907. There was a history of dyspepsia for one year. The night previous to entrance she had a sudden, acute



attack of pain, with pulse of 108, temperature of 99.8° and a white count of 20,000.

No report of the stomach contents was obtained.

An appendicitis was suspected and appendix incision made.

At the operation a perforation the size of a pea was found on the anterior surface of the stomach just above the pylorus, surrounding which there was a large induration. The perforation was sutured and an omental flap sutured to it.

The patient recovered well from the operation. She was discharged much relieved.

No remote result had been obtained.

CASE No. 22. W. J. R. A man forty-three years old. Patient of Dr. Burleigh, South Braintree, Mass. The patient entered the hospital March 29, 1907. There was a history of dyspepsia for one year. The night previous to entrance he had a sudden, acute attack of pain and vomiting. The temperature was 100°; the pulse, 90.

There was no report of the stomach contents made.

An appendicitis was suspected and operation done.

At the operation free fluid was found in the abdomen and a perforation the size of a lead pencil was found in the stomach wall near the pylorus. The perforation was sutured and omental plastic done.

There was no growth from the culture from the abdominal fluid.

The patient steadily improved after the operation and had no difficulty with his food.

Oct. 24, 1910, three years later, he reports by letter that he is careful about his diet, and feels well.

CASE No. 23. J. S. C. A man thirty-three years old. The patient entered the hospital March 30, 1907. The diagnosis was a perforated gastric ulcer. There was a history of frequent vomiting and distress after eating for one year. Two days previously he had an acute attack of severe pain and vomiting with a temperature of 101.6°.

There was no report of stomach contents obtained.

At the operation free fluid was found in the abdomen and a perforation the size of a lead pencil on the anterior surface of the stomach near the pylorus. The perforation was sutured and an omental plastic done.

Culture from the abdominal fluid showed a colon-like bacillus.

The patient improved steadily after the operation and was discharged in good general condition.

No remote result has been obtained.

CASE No. 24. C. W. H. A man forty-nine years old. The patient entered a hospital April 7, 1909, with a diagnosis of perforated gastric ulcer. There was a previous history of dyspepsia. During the last three weeks there had been very great abdominal pain. At the time of entrance to the hospital he presented a picture of great shock. He was in a state of cold perspiration; extremities were cold; very rapid pulse; face somewhat cyanosed.

At operation a large mass was found about the pylorus on the gastric side and in the center of the mass there was a hole through which the gastric contents escaped into the abdomen. The edges of the perforation were so indurated that suture was difficult. The perforation was sutured and a rubber tissue wick introduced.

The man recovered from the operation.

At the end of three days, there being evidence of a leak at the seat of perforation along the rubber tissue wick, the wound was reopened. The induration had very considerably disappeared. Suture of the opening was accomplished with ease, but the patient was in such poor condition that he died within twenty-four hours following the second operation.

CASE No. 25. (See Case No. 15.) C. W. A man thirty-eight years old had had symptoms of indigestion for fifteen years. Heartburn, gas, epigastric pain. During the four years before coming to the hospital he had had twelve attacks like the present one, only less severe. Two hours previous to entrance to the hospital he had a knife-like pain in stomach. He vomited and was in a condition of shock. He was operated upon, and at the pylorus was found a hole one third of an inch in diameter through which stomach contents appeared. The opening was closed by mattress linen sutures. This case was not operated upon by me for the perforation, but I enter it here because the record of Case 15 is thereby rendered complete. The record of this case will be found in the Massachusetts General Hospital Records, Vol. 678, service of S. J. Mixter.

#### PERFORATED DUODENAL ULCER.

CASE No. 26. F. P. D. A man of twenty-four years. The patient entered the hospital May 30, 1904. There was a diagnosis of perforated duodenal ulcer and general peritonitis. There was a history of seizure with acute abdominal pain located in the epigastrium two days previously. There was daily vomiting. The temperature was 102° and the pulse 80. There was no report made of stomach contents.

At the operation free fluid was found in the abdomen, fibrin, and a perforation of the first part of the duodenum. The perforation of the duodenum was closed and the abdomen flushed with salt solution.

There was a rapid gain in strength after the operation. The immediate convalescence was satisfactory.

July 11, 1904. A posterior gastro-enterostomy was done at this time. Seven years later the patient is perfectly well. Same as Case 18.

CASE No. 27. C. S. W. A man thirty years of age. The patient entered the hospital Feb. 20, 1908. The diagnosis was a perforated duodenal ulcer. There was a history of a few slight previous digestive disturbances. Two weeks previously he had a sudden, sharp attack of pain and vomiting. He had become very much emaciated.

There was no report of stomach contents obtained.

At the operation many adhesions were found, the pyloric end of the stomach was edematous, and there was an abscess cavity under the edge of the liver connecting with the thickened pylorus. The abscess near the liver from the perforated duodenal ulcer was drained.

The patient made an uneventful convalescence and was discharged relieved.

July 27, 1910, two years later, the patient reports by letter that he feels fairly well, but eats lightly and does light work.

#### CHRONIC GASTRIC OR DUODENAL ULCER.

Case.	Duration of symptoms previous to operation.	Operation.		Remote result.
1	10 years. Acute 3 weeks.	G. E.* & G. D.†	Well 6 years following operation.	
2	5 years. Acute 2 weeks.	Partial gastrectomy. P. G. E.‡	Died.	
3	25 years. 2 months acute.	P. G. E.	Well 6 years later.	
4	5 years.	P. G. E.	Well 5 years following operation.	
5	2 years.	Partial gastrectomy. P. G. E.	Well some years following operation.	

\* Gastro-enterostomy.

† Gastro-duodenostomy.

‡ Posterior gastro-enterostomy.



Case.	Duration of symptoms previous to operation.	Operation.	Remote result.
6	Several years.	P. G. E.	Well 5 years following operation.
7	5 months plus.	P. G. E.	Well 3 years following operation.
8	1 year.	P. G. E.	No report.
9	10 years.	Partial gastrectomy. P. G. E.	Well 3 years following operation.
10	9 years.	P. G. E.	Well 1 year 3 months following operation.
11	Several years.	P. G. E.	Well 2 years following operation.
12	8 months plus.	P. G. E.	Well 2 years following operation.
13	13 months.	P. G. E.	Well 2 years following operation.
14	7 years.	P. G. E.	Well 1 year plus following operation.
15	Recurrence 3 months. See table of perforated gastric ulcer, No. 25.	P. G. E.	Well 1 year plus following operation.
16	2 weeks plus. (2 years ago old suture for perforation.)	P. G. E.	Well 1 year plus following operation.
17	7 years.	P. G. E.	Well 1 year plus following operation.
18*	2 months previously suture of perforation.	P. G. E.	Well 7 years following operation.
19	1 year.	P. G. E.	Well 1 year following operation.
20	9 years.	P. G. E.	2 months later recurrence. Operation second time.

## PERFORATED GASTRIC ULCER.

21	1 year, 1 day.	Suture.	No report.
22	1 year, 1 day.	Suture.	Well 3 years following operation.
23	1 year, 2 days.	Suture.	No report.
24	3 weeks plus 1 day.	Suture.	Died.
25†	4 years, 3 days.	Suture.	No decrease of digestive disturbance. (P. G. E. later.)

## PERFORATED DUODENAL ULCER.

26‡	Long time. 2 days.	Suture.	Chronic ulcer symptoms until P.G.E. 2 months later.
27	Long time. 2 days.	Drainage of abscess.	Much relieved 2 years following operation.

\* See No. 26 in table "Perforated Duodenal Ulcer." No. 26 in table "Perforated Duodenal Ulcer" and No. 18 are the same patient. See detailed record of case.

† See Table, Case No. 15.

‡ See Case No. 18.

## CHORIONEPITHELIOMA.\*

BY STEPHEN RUSHMORE, M.D., BOSTON,

Gynecologist to the Carney Hospital.

THE literature on chorionepithelioma grew rapidly from the first to a considerable size, but in the past five years the annual increment has lessened markedly. This is due, not to a lack of interest, but to the fact that the subject is no longer new, and certain fundamental facts in regard to the disease are well established. While certain problems are thus definitely solved, others more abundant await solution. Little fundamental has been added so the histological picture given by Marchand in 1898. But in spite of the large number of cases reported, the great interest which this peculiar tumor has aroused, and the careful and thorough study it has received, the clinical question of primary importance—the diagnosis—is still unsolved. That is, it is not possible to say in every case, after a study of the history, the clinical findings and the microscopical preparations, this patient has or has not chorionepithelioma. Even if the diagnosis can be made, the prognosis is not given. Will the patient get well without treatment? Will curettage be enough? Will excision of a superficial metastasis give a cure? Will complete hysterectomy hasten the progress of the disease?

In 1888, Saenger reported what he considered to be a new kind of neoplasm, the first case of chorionepithelioma to be described as a distinct species of tumor. It occurred in a patient aged twenty-three, who had had an incomplete abortion in the eighth week of pregnancy, consequent upon some external violence. Symptoms of infection followed: Fever, foul discharge and some bleeding from the uterus. Four weeks later the uterus was completely emptied, but the patient's condition did not improve. The uterus increased in size, a mass appeared in the iliac fossa, which was incised for an abscess, but only soft clot-like tissue was found. The patient soon died with manifestations of lung involvement. At autopsy, four discrete tumors were found in the uterus and metastases in the lungs, diaphragm, rib and the right iliac fossa. The tumors and metastases were soft and spongy in character, containing considerable blood. Under the microscope were seen cells which closely resembled decidual cells, and which were arranged about blood-filled spaces. The cells were identified by Saenger as decidual and the tumor was accordingly named deciduoma malignum. This term was soon given up by Saenger, however, though retained by other writers. His own objections were, "apart from the barbarism of the expression," that a true "deciduoma" should contain all the elements of the decidua, epithelium as well as connective tissue. Besides, names should not be unduly multiplied, so he preferred the term "sarcoma deciduo-cellulare," or "decidual-celled sarcoma," after the analogy of round-celled, spindle-celled or giant-celled sarcoma. It was then recognized that the decidua was of connective

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tissue origin and of maternal not fetal tissue, being derived from the interglandular cells of the endometrium. It is interesting that the name "deciduoma malignum" was in the same year independently given to a similar tumor by Pfeifer. At the time of Pfeifer's report, Chiari identified three cases of his own, reported some years before as fatal cancer of the uterus immediately following pregnancy, as belonging to this group. Reports of other cases quickly appeared in the literature, but the lack of unanimity of opinion as to the origin and nature of the tumors is indicated by the multiplicity of names which were suggested.

Gottschalk held, in opposition to Saenger, that the tumor was a malignant growth of the chorionic villi, a sarcoma of the villi in fact; and he was the first to hold the purely fetal origin of the tumor. This is the view which now generally prevails, but, as Veit has pointed out, while Gottschalk's hypothesis was correct, the grounds on which he based it were insufficient and inaccurate, and it was not until Marchand's second publication that the fetal origin of the tumor began to be widely accepted.

Marchand's work marks a most important step in the progress of our knowledge of the histology of these so-called decidual tumors. He showed clearly that the tumors consist of two kinds of tissue, syncytium and ectoderm, which grow together in varying proportions. The view generally held at the time of his earlier publications was that the syncytium was of maternal or uterine origin, consisting of fused epithelial cells from the surface or from the glands of the endometrium. The ectoderm grew with the syncytium, giving a tumor of both fetal and maternal origin. In 1898, three years later, the fetal origin of the syncytium also was accepted, and he adopted the term "chorionepithelioma." As nearly all the cases reported at that time had proved fatal rapidly, the malignant character was much in evidence and the term Marchand employed was "chorionepithelioma malignum." He held that all the different tumors described had the same origin, though the appearances varied greatly according to varying conditions.

Previously Apfelstedt had suggested "chorioma" as best describing the tumor; he had found what seemed to be indications of growth of the connective tissue of the villi as well as of their epithelial covering. But later views are that, while in some cases the connective tissue of the chorion may appear as in the stem of a villus, it does not constitute an essential element of the growth.

According to Marchand's description, the tumor consists of two different elements which are interwoven; the first in the form of multinucleated masses of protoplasm—an irregular trabeculated framework; the second, cellular elements which have distinct cell boundaries, and clearly staining nuclei which show mitotic figures. The cells give the reaction for glycogen. These elements are mingled in varying proportions and ways; it was these great variations which gave rise to the many divergent opinions of different writers.

The term "chorionepithelioma" means a tumor of the epithelium of the chorionic villi. This epithelium is of two kinds, an outer layer called the syncytium, which lies in direct contact with the maternal blood; and an inner layer, which bears the name of Langhans, who first described it. The syncytium, as the name implies, shows no division into cells by visible boundaries, but consists of protoplasm which stains deeply with eosin, and contains numerous deeply staining nuclei. It seems easily to undergo degeneration, showing vacuoles and necrotic areas. It covers the inner cells with a layer of varying thickness, and is found at all stages of pregnancy. The inner layer consists of oval, cuboidal or polygonal cells with sharply marked cell boundaries and vesicular nuclei, which are rather large and stain well. The protoplasm shows little or no trace of stain with eosin. These cells of the inner layer begin to disappear in the early months of pregnancy, and none may be found after the fifth month. Both kinds of epithelium are of fetal origin, being derived from the ectoderm and constituting part of the trophoderm of the early fetus. Although the common origin of these two kinds of epithelium had been pointed out before the first publication on chorionepithelioma, that view was not generally accepted, and there ensued a long controversy as to the origin of both kinds of tissue.

It became evident that light could be thrown on some of the problems which presented themselves only by a study of early pregnancies, normal and abnormal, and this field was thoroughly investigated. It had been noted that a number of the cases followed hydatid mole, and this somewhat unusual condition was carefully studied. It is by the comparative study of the early placenta and its relations to the uterus, especially the decidua serotina, in normal pregnancy, abortion and hydatid mole, that our present accurate knowledge of the pathological anatomy and histology has been obtained, and this part of the subject placed on a firm basis. But as has been pointed out, the clinical side is in some confusion, and diagnosis and prognosis are still uncertain.

It had been noted by Saenger that the tumor followed a pregnancy. He even stated that with the origin from the cells of the decidua in pregnancy, his teaching as to a new kind of tumor stood or fell. This relation to a pregnancy has been generally accepted even in cases in which such relationship could not be proved. The evident connection in some cases, the close resemblance of the cells to those found in pregnancy and the great difficulty of excluding a pregnancy in any given case have rendered this acceptance easy. The divergent view will be considered later. So the view has gained ground that pregnancy, normal or abnormal, has always preceded the formation of chorionepithelioma.

The pregnancy need not have been in the uterus: Marchand's first case was extra-uterine, in which the vaginal metastasis gave the first indication of the disease. A metastasis has even

occurred without an original tumor at the seat of the pregnancy, paradoxical as it may seem. There are two explanations: that the placenta, though having malignant disease, was completely expelled from the uterus, after metastasis had taken place; or, that a portion of the non-malignant placenta had become displaced, and in its new situation had become malignant. This latter view seems more probable. In Walthard's case the first disturbance of pregnancy occurred in the seventh month, in the form of bleeding from nodules in the vagina. Excision of the nodules and microscopical examination showed chorionepithelioma. Cesarean section in the interest of the living child was done, followed by complete hysterectomy. The patient died seven months later with metastases in the kidneys, in the lungs and in the liver. Careful examination in the gross and under the microscope of the uterus and placenta hardened *in situ* showed no point of origin for a primary chorionepithelioma of the placenta, nor any vesicular changes in the villi.

There is one disturbance of pregnancy which has been noted with especial frequency as a preceding factor, — the occurrence of hydatid mole. This form of tumor may be described as an edematous condition of the connective tissue of the chorionic villi, with overgrowth of the chorionic epithelium. The epithelial overgrowth is scarcely perceptible macroscopically, but the edema of the villi gives a very striking picture. There is considerable resemblance to a bunch of small white translucent grapes, the distended villi becoming cystic. There is generally no trace of a fetus. Sometimes the amniotic cavity is present with fragments of umbilical cord and fetus. But very rarely is a well-formed fetus found. This disease of the placenta may involve the whole of that organ or only a part; and in twin pregnancy, vesicular degeneration of one placenta only has been observed. The cause is not known, but two theories have been propounded. The first is that the disease is primary in the ovum; the second, that the disease is primary in the decidua. While neither can at present be established, the evidence, which will not be gone into here, seems to favor rather the view that the decidua is primarily involved. Clinically, vesicular moles may be divided into benign and malignant, but it is quite impossible to make a diagnosis of which condition is present until the clinical course has made the demonstration. The microscope throws no light on the subject.

As has been said, the formation of a hydatid mole precedes chorionepithelioma with peculiar frequency. This is represented in figures by 44%. About 29% of the cases are preceded by abortion, and about 25% by a normal pregnancy. It is stated by Hitschmann and Cristofletti, from whom these figures are quoted, that the number following normal pregnancy is probably incorrect, because of the generally recognized inaccuracy of the statements of patients in regard to miscarriages. Many patients deny the existence of a miscarriage in whom the diagnosis is

made certain by the microscope. If we consider the frequency with which hydatid mole is followed by chorionepithelioma, we find the figures vary from 7 to 15% for fairly large series of cases. A series of fifty cases has been reported without one developing into a chorionepithelioma. In the light of these figures, the removal of the uterus as a routine procedure after hydatid mole, as recommended by some operators, is unwarranted.

Since Marchand's work especially, the view has gained ground that chorionepithelioma always follows a pregnancy. Veit, indeed, says, except following pregnancy, there can be no true chorionepithelioma malignum. But there have been those who denied the necessity of a preceding pregnancy. In 1902, Schlagenhauser reported a case of malignant tumor of the testicle, a teratoma, which gave rise to metastases and proved fatal. The original tumor, but especially the metastases, showed masses of protoplasm which closely resembled syncytium and groups of cells which could not be distinguished from the cells of Langhans. Microscopically the tumor could not be distinguished from a chorionepithelioma. Other similar cases he reports from the literature, and more recently new cases have been published. Similar tumors from the ovary have been found, associated with teratoma, when pregnancy could be excluded.

The occurrence of these cases must be accepted, and whether the term "chorionepithelioma" is to be applied, is only a question of words. Not only are the tissues similar, but they cannot be distinguished histologically. At the present state of knowledge it is better not to make the term specific, as referring to tissue which we can definitely trace to an impregnated ovum. Teratomata are thought to be derived from unimpregnated germ cells and develop various forms of fetal tissue, bone, teeth, muscle, nerve, mucous membrane, glands. There is no reason, *a priori*, why the placental part of the fetus might not be developed in this way; probably this is the explanation of the tumors associated with teratomata; and the case of Devitsky (bladder tumor) seems to show that the tumor may occur without teratoma or pregnancy.

The outcome of the cases reported by Saenger as well as the other early writers was fatal. In a few months, in spite of everything that might be done, either as the result of the progress of the original growth, of recurrences in the pelvis after operation, or of metastases, the patient succumbed. And the brief course of the disease in some cases gave rise to the opinion that this was always one of the most malignant diseases, an opinion which has not disappeared to-day. But very soon, before even the character of the tumor was well established by Marchand in 1898, this accepted fundamental characteristic of malignancy began to be questioned, and a case reported by Pick in 1897 is of great interest. The patient, a woman twenty-two years old, was seen in the fourth month of pregnancy, having had bleeding from the vagina for several weeks. The bleeding

came from a swelling on the anterior vaginal wall, which looked like a small submucous hematomata. The nodule was excised. Two days later bleeding from the uterus began and on the third day the patient was delivered of a hydatid mole. Under the microscope, the nodule and the mole almost exactly corresponded in structure, as a number of chorionic villi, covered chiefly with syncytium, growing abundantly, were seen in the metastasis. The Langhans cells were not clearly seen. The question of radical operation was under discussion, and was decided by the patient's going home. She was not heard from for over three years, when she was seen in the best of health, in the fourth month of a pregnancy which concluded at term, with the spontaneous birth of a healthy child. From this time the term "benign chorionepithelioma" came into use.

In 1896, Apfelstedt wrote that every method of therapy to combat these tumors was powerless; all terminated fatally. In 1903 Teacher said that 63% represented the proportion permanently cured. Both these statements may be rejected at once as incorrect: the former because some more recent cases of undoubted chorionepithelioma have recovered even when operation was given up because of the extent of the disease; the latter, because cases are reported as "cured" in which sufficient time had not elapsed after operation to permit of such a conclusion. In spite of the large number of cases reported, this point cannot be determined now, even approximately, because the late reports, that is, after an interval of years, have not been made. But the conclusion which we may properly draw as to the malignancy is that all grades of malignancy occur; cases have been reported which spontaneously recovered; others recovered after incomplete local operation; others after complete local operation, even in the presence of undoubted lung metastases; in others complete local operation in apparently favorable cases was quickly followed by multiple distant metastases which proved fatal; in others, when first seen, hope from operation was out of the question.

What is the cause of this marked variation in the clinical course of the disease? Here the results of the study with the microscope are most interesting. I quote the opinion of Zagorianski-Kissel as an example of the views generally held by pathologists. It is, in the first place, that a purely histological diagnosis of unequivocal malignancy, in the same sense as in carcinoma, cannot be made of chorionepithelial growths, independent of situation. In the second place, the exact diagnosis of malignant chorionepithelioma can be made for a tumor of this nature, neither on the basis of the formation of metastases nor on the destruction caused by the growth of chorionic tissue, but only after the final outcome of the disease is clear. Veit says such a tumor is to be regarded as malignant, not on the histological picture, nor on the presence of metastases, but only if the metastases are not in the immediate neighborhood of the uterus. This is a very

disturbing conclusion for the clinician. But every characteristic that has been at one time or another regarded as suggestive of, or characteristic of, malignancy, has been found in cases which are certainly not malignant, and may be found in quite normal pregnancies. The invasive and destructive power of the trophoderm, of a degree which is normal for that tissue, would in any other tissue be regarded as a sign of great malignancy.

Recently an attempt has been made by Ewing to classify the various forms in which these tumors appear, predicated a greater or less degree of malignancy for certain groups of cases. In general he agrees with the conclusions of Schmauch, who says that we may accept the following:

(1) The malignancy of the generalized forms of chorionepithelioma, and the prominence of the "typical" form in this class. The "typical" form has cells which resemble the two kinds of epithelium of the chorion found in early pregnancies.

(2) The lesser malignancy of the "transition" forms,—prominence of syncytium over Langhans cells.

(3) The benign character of the "atypical" forms—large cells—without Langhans cells or syncytium.

(4) The relatively benign character of cases in which villi are found. In these there is no generalization.

But this question needs much further study, for a fatal outcome may follow any form.

There is one characteristic of the chorionic epithelium both in its normal and abnormal growth that has not been alluded to, but which it is important to recognize. Through the arrosive action of these cells, the maternal blood vessels are opened from the time of the nidation of the ovum. In this way the ovum, including the placenta, is nourished. Though the epithelium is attached to the villi, it derives all its nourishment from the maternal blood, in which the syncytium is bathed. Its normal growth is thus in the maternal blood and masses of syncytium and villi are found normally invading the uterine wall, and may even be found far distant from the line marking the boundary of the placenta and decidua. For example, they occur in the lung, where they were thought by Schmorl to be of etiological significance in eclampsia. The intravascular growth of chorionepitheliomata was soon noticed, and it explains the frequent metastases to the lungs, and the general metastases which may after operation "spring up like mushrooms." The growth is perhaps exclusively intravascular. Metastases to lymph glands are also by the blood stream.

Hitschmann and Cristofolletti have shown that this intravascular growth is of considerable importance from the point of view of treatment. Basing their study on autopsy findings in cases which died without operation, cases in which the cause of the disease was short after operation, and cases which died during or very soon after operation, they conclude that operation greatly

increased the number of metastases in distant internal organs. The factors leading to the increased dissemination of the tumor cells are the intravascular growth and the trauma of operation. Most of the cases were operated on by the vaginal route, hysterectomy having been performed. From these considerations they conclude that the vaginal hysterectomy should be given up, that the abdominal should be substituted for it, first tying the efferent venous trunks. The extensive operation recommended for cancer of the uterus is unnecessary, as the lymph glands are practically never involved. Even the trauma of curettage for diagnosis should be recognized as a distinct element of danger.

Of the ultimate cause of this malignant tumor we know as little as of the cause of such growths in general. But we are finding out more exactly some of the conditions in which malignant tumors develop, and this characteristic of intravascular growth has suggested to Hitschmann and Cristofolletti a plausible explanation of the curious behavior of chorionepitheliomata. It is generally noted that comparatively little of the mass of one of these tumors consists of actively growing cells; it is mostly blood. The tumor cells show a marked tendency to undergo necrosis. Sometimes a metastasis may seem to consist almost entirely of blood and necrotic tissue. It had already been suggested that the presence of the blood clot was the reason why the metastasis did not grow. To Hitschmann and Cristofolletti this is the explanation of the phenomena of spontaneous cure and rapidly disseminating fatal metastases. The epithelial cells of the chorion can live only in the circulating blood. If from any cause, as a blood clot, the circulating blood is shut off, the cells will die. If no such shutting off occurs, the cells grow indefinitely. The explanation is simple and corresponds exactly with the histological picture often seen of necrotic or degenerating cells lying in a blood clot in a vein. Whether the explanation is adequate cannot be decided at present. The clotting of blood may be a protective action on the part of the maternal organism, and in the prevention of clotting may lie the secret of the unlimited growth. The ultimate question as to cause, however, is not answered, but is pushed off one step further.

We see then that often the diagnosis cannot be made with certainty. The history and clinical findings must be studied in connection with the results of microscopical examination. In doubtful cases, the lesser emphasis should be placed on the microscopical examination. If there is certain evidence of invasion and destruction of the musculature, it is important, but at least one such case has been cured after thorough curettage. On account of the possibility of retained placental tissue, which may continue to grow after expulsion of most of that organ, even the presence of a tumor mass in the uterus is not conclusive, unless it has once been made certain that the uterus was empty. Any bleeding which occurs after a pregnancy should be regarded with

suspicion. After hydatid mole, make sure the uterus is empty. Then any later sign of tumor is of greater significance. If bleeding occurs, examine under ether and curette carefully. If nothing abnormal is found, keep the patient under observation. If bleeding comes on again, a radical operation is advisable, even in the absence of sign of a tumor. It is better here to operate too often than to put off operation until too late. The mortality in the former condition is from 3 to 6%; in the latter, 100%. If radical operation is indicated, abdominal hysterectomy, with preliminary tying off of the efferent veins, is to be preferred to operation by the vaginal route. If the vagina is involved by metastases it need not be removed. Enucleation of the metastases is sufficient.

The prognosis is often in doubt, but it may be said that in general the outlook is more favorable than was at first supposed.

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### THE RELATION OF GONORRHEA TO PELVIC DISEASE.\*

BY GEO. W. KAHN, M.D., BOSTON.

In the *Journal of the American Medical Association*, August 10, 1907, there is an article by Joseph Taber Johnson upon "The Influence of Gonorrhea as a Factor of Depopulation." In this article he makes some statements which I wish to call to your attention. First that

"Noeggerath stated, in 1876, that of every thousand married men, eight hundred have had gonorrhea, from which a great majority of their wives have been infected"; and also

"Another writer of large experience thinks that fully 70% of the women who came to his service for treatment were respectable married women who had been infected with gonorrhea by their husbands"; and again

"The oft-repeated statement is familiar to you all, that at least one half of the abdominal operations of the world are necessitated on account of gonorrheal infection." He further says that "while this statement is startling, the sad part of it is that it falls far short of the actual facts." He quotes Humeiston as stating that 90% of his operations are attributable to this cause, some of them, however, being cases of mixed infection. He also quotes Price as declaring that in one thousand abdominal sections for pelvic inflammation, 95% were attributable to gonorrhea.

Dr. E. H. Grandin, speaking upon "Gonococcal Infection in Woman,"<sup>1</sup> bases his remarks upon the knowledge that fully 60% of his operative work among women would not exist were it not for this germ. He also refers to Noeggerath's views and says that while they were originally received with skepticism, the profession is now a

\* Read before the Clinical Club.  
<sup>1</sup> Med. Rec., May 26, 1906.

unit in accepting them. He claims about 45% of sterile marriages as due to the gonococcus, and about 60% of pelvic inflammatory disease requiring operation is due to the gonococcus. Please note that 60% of *all* his operative work among women is claimed due to the gonococcus, and that 60% of pelvic inflammatory disease requiring operation is due to the same germ.

Dr. Prince A. Morrow, replying in the BOSTON MEDICAL AND SURGICAL JOURNAL of Oct. 5, 1911, to Dr. Richard Cabot's paper read before The Massachusetts Medical Society in June of this year on the frequency of venereal disease, refers to a statement previously made by himself that "gonococcus infection is, according to gynecologists, the cause of 80% of the deaths due to inflammatory diseases peculiar to women."

Hospitals.	Total.	Deduct.	Net.	Abdominal.	Tubal.
Carney, 1905	843	47	796	133 — 16.7%	46 — 5.7% of total. 37% of abdominal.
St. Elizabeth's, 1906-07	1,347	None	1,347	480 — 35%	94 — 7% of total. 19% of abdominal.
Boston City, 1905-06	625	25	600	200 — 33½%	99 — 16½% of total. 50% of abdominal.
Free Hospital, 1906-07	929	119	810	233 — 28%	44 — 5% of total. 19% of abdominal.
Free Hospital, 1910-11	1,500	281	1,219	477 — 39%	148 — 12% of total. 31% of abdominal.

Thus we see that the belief of Noeggerath, stated somewhere about 1872 to 1876 (references differ as to the date, which is immaterial to this paper), has remained with us and has influenced the teaching in the profession up to the present time; so that the gravest effects of the infection have been presented as the *usual* effects in the large majority of cases. Noeggerath called attention to the latency of gonorrhea, its remaining quiescent for a time and then for some reason an active awakening, and perhaps an extension of the infection to other tissues. I am not prepared to speak to you this evening upon the frequency of gonorrheal infection in women as shown by microscopic investigation, but upon the clinical side as demonstrated by clinical experience and hospital reports.

My own experience of about twenty years in the Free Hospital for Women in the out-patient service and the operating service as well, makes me differ decidedly from the views as given above. In the hospital report of 1904-1905 I called attention to the fact that fully half of the cases referred to the hospital for operation were for lesions consequent upon parturition; cases of lacerations of the cervix and perineum, and also cases of malposition. In these cases gonorrhea is no factor.

In order to be sure that the impression from my experience was not erroneous, I looked over the reports of some of the hospitals and impose upon you a few tabulated figures. I have taken the total of the operations as given in the report and deducted such operations as were not strictly gynecological, as appendectomies, herniotomies,

operations on the breast, kidney and gall bladder. I have taken the hospitals which have a distinctly separate gynecological service. My reports are mostly some years back, for it was then that I looked them over; but there is no reason to suppose that the proportions are any different now.

In this latest report of the Free Hospital for Women, in the classification of pathological specimens there are reported 130 specimens of salpingitis. If each specimen represented a separate case, which is very unlikely, and if each specimen of salpingitis represented a gonorrheal salpingitis, which is also very unlikely, even then the proportion would be only a little over 10% of all the gynecological operations.

In his work on "The Pathology of the Female

Sexual Organs," Gebhard refers to the examination of 409 cases of tubal infection which showed 226 cases sterile. Of the 183 cases where microorganisms were found, there were 92 of the gonococcus, 53 of the streptococcus and staphylococcus, and the balance pneumococcus, bacterium coli communis and unnamed bacteria. Thus there were about 22.5% of the whole number of cases of tubal infection proven gonorrheal.

I have included in the summary of the tubal cases in the above tabulation all cases which could be considered at all tubal; as, for instance, in the second report of the Free Hospital for Women, I included hysterectomy for pelvic inflammation, 49 cases; resection of tubes, 28 cases; salpingectomy, 18 cases; salpingo-oophorectomy, 53 cases; thus making the total of 148 tubal cases.

From these figures obtained from hospital reports it is evident that operations for tubal disease represent from 5 to about 16% of gynecological operations, and even at that, the tubal disease is not always gonorrheal. Thus Grandin's statement of 60% seems quite unreasonable, and the high percentages mentioned by Johnson and Morrow are not to be taken at their face value as an indication of the gravity of the infection. It has occurred to me at times that perhaps the real seriousness of the infection lies not wholly in the anatomical lesion, but in the operator's zeal in removing not only the tubes, but also the uterus, without a fair trial of other treatment.

This is what Findley says, in his book on "Gonorrhea in Women": "When the tubal infection continues to cause serious disturbances,



and at intervals of weeks and months is awakened to acute exacerbations, operative measures should be resorted to. But when the diseased tubes exist with little or no discomfort to the individual, there is no occasion for operative interference." This statement of Findley's accords with my own feeling. The mental attitude of women after the removal of their internal sexual organs should be seriously considered before deciding upon an operation of that nature.

In Allbut, Playfair and Eden's "System of Gynecology" reference is made to Sanger's report of having found 230 cases of gonorrhea in 1,930 private and hospital cases, about 12%. He later found the proportion 18%. They also mention Bumm as stating that 10 to 20% of women who consult gynecologists have gonorrheal infection; but this is not saying that they come solely for the treatment of that infection; or, in other words, a woman may have gonorrhea without any symptoms calling her attention to it, and may never come for treatment because of it, but for some other pelvic condition not due to it.

Julian says (Findley): "It is common to hear women who constantly suffer from uterine torture employ such words as these: 'When I was a girl I was quite well. It is only since my marriage that I have become ill.'" Statements like this have led the physician to conclude at once that the woman has been infected by the husband with gonorrhea because the illness followed the marriage. There are, however, other things connected with married life besides the gonococcus to make the wife ill. In the first place, the more chaste the husband, the less he knows how to perform the sexual act; he hurts or frightens the wife; then if the act is successfully accomplished so far as he is concerned, the wife may be left with her orgasm not completed, and her sexual organs congested and without their physiological relief. If you add to this the efforts to prevent conception in early married life, then you have conditions which can make the woman an invalid without the aid of the gonococcus. No physician has a right to assume that a wife's illness is due to gonorrhea without adequate proof.

I feel sure from my experience, that Sanger and Bumm, as above quoted, are nearer right as to the prevalence of gonorrheal infection in women, viz., 10 to 20%, than those who claim a much higher percentage. The value of Noeggerath's investigations is, in especial, that he showed the presence of "latent gonorrhea," where the infection remains quiescent for perhaps years and then becomes active through some agency.

The effect of gonorrhea is upon the urethra, where it is most likely to remain latent in Skene's ducts; in the vulvo-vaginal glands, where, according to Lea, in his work on "Puerperal Infection," about 50% only are due to gonorrhea, in distinction to those who say that every case of vulvo-vaginal gland infection is due to the gonococcus; the vagina is rarely infected. The cervical canal is the next point in frequency

to be infected; and according to an authority quoted by Wright in his book on "Obstetrics," in one case in five it extends to the uterus, and in one case in twenty it extends to the Fallopian tubes. In regard to pus tubes, my opinion agrees with that of Wright, who says: "We hear much about pus tubes and I fear that many of our physicians and surgeons have only hazy or incorrect ideas as to their cause and results. Some have talked of pus tubes as if they were always caused by gonorrhea. Gonorrhea in a certain proportion of cases does certainly cause pus tubes. No careful observer considers that gonorrhea is the cause of pus tubes in more than 20 to 30% of all cases. The most common cause is septic infection after abortion or labor. Pus tubes due to gonorrheal infection never cause puerperal fever." Wright also quotes Sanger as having found that 26% of pregnant women had gonorrhea, Oppenheim found 27% and Lohmer found 28%. These observers all agree that notwithstanding the large proportion of women infected with gonorrhea, the mortality in all the hospitals was small, showing that gonorrhea has but little effect in the early weeks after labor, and seldom or never causes the ordinary puerperal infection.

Findley<sup>2</sup> says "that a latent gonorrheal infection residing in the genitalia does not always result in puerperal sepsis is shown by the statistics of Steinbuckel, who observed a normal puerperium in 274 cases, 18% of which contained gonococci in the vaginal secretion."

Reynolds and Newell state that "if the mucous membranes are already infected with the gonococcus at the time of labor, its tendency is to produce temporary salpingitis, with a large collection of fluid, which usually escapes by draining through the uterus in a few days. The ultimate prognosis in these cases is usually good as far as the life of the patient is concerned, but the morbidity is very high. The presence of chronic infection due to the gonococcus also lessens the general resistance of the tissues and renders infection with other organisms more probable and the prognosis rather more doubtful than it otherwise would be. The lighting up of an old gonorrheal infection is apt to be marked by a sudden moderate pyrexia with its attendant symptoms, and the development of large masses in one or both sides of the pelvis. Although these cases are often extremely alarming, they usually take care of themselves with proper nursing and rest in bed."

Lea<sup>3</sup> says that gonorrhea is responsible for 5 to 10% of the infection in labor cases.

"The differential diagnosis in puerperal cases (Findley) is between streptococcal infection and sapremia. From streptococcal infection the gonorrheal fever is distinguished by its later onset (seventh to eighth day instead of fourth to fifth day), by the moderate degree of fever (103° in contrast to 105°), by the absence of signs of severe intoxication, and by the regular and proportionately slow pulse. After twenty-four

<sup>1</sup> Gonorrhea in Women, p. 37.

<sup>2</sup> Puerperal Infection.



to forty-eight hours all doubt in the diagnosis is usually removed by the gradual remission of the fever. In sapremia we usually have a history of retained placental tissue, a foul-smelling discharge often attended by considerable bleeding, or at times a sudden blocking up of the lochia, and a large soft and rather insensitive uterus. In contrast thereto, we have in gonorrheal cases, a free, yellowish, glairy discharge and a small rather firm but exquisitely tender uterus. In typical cases, therefore, the clinical diagnosis of gonorrheal puerperal fever is not so difficult. In all cases we must rest our diagnosis upon the microscopic examination of the lochia."

As to the effect of gonorrhea in the production of *sterility*, we see that Noeggerath, the original investigator, states that 49 out of 81 wives of men known to have had gonorrhea were absolutely sterile, and 11 relatively sterile. Bumm estimates that 30% of gonorrheal patients are sterile; at the same time he does not believe the figures of Noeggerath to be correct, and thinks the chief cause of the sterility of women is underdevelopment of the genital organs. "Erb found that in 400 marriages to formerly infected men, 375 remained free of infection in the pelvis of the wife; 12% of the wives were sterile; 68% had two or more children." (Findley.) Gonorrhea of the cervix does not prevent pregnancy, and it has been repeatedly shown that endometritis and salpingitis of gonorrheal origin do not always preclude the possibility of pregnancy. Brothers reports two cases with bilateral pus tubes in which the patients subsequently gave birth to several children. A similar case was observed by Findley. The possibility of pregnancy with one pus tube is naturally more likely than with two pus tubes.

*Diagnosis* of tubal infection by bimanual examination shows the tubes in their normal location or at the sides or fallen back of the uterus. They are increased in size to a little beyond normal to the size of a grapefruit, and usually not mobile. The uterus and ovaries are usually involved in the inflammation, but a *general peritonitis* rarely occurs. Fenger, quoted by Wright, referring to the fact that a general peritonitis rarely or never occurs from gonorrhea, relates the case of a strumpet who died while suffering from gonorrhea. The autopsy showed the uterus deeply infected, the tubes distended by muco-pus, the fimbriae closely adherent, and the peritoneum healthy.

*Treatment* to abort the infection is usually not possible because in the early stage the symptoms are so slight that no attention is paid to them by the patient. In the acute stage, in order to avoid, so far as possible, the extension to the pelvis, no digital or instrumental examination should be made, for in this way the gonococcus may be carried from the urethra to the vagina or from the vagina to the cervix and from the cervix to the uterus and thus to the tubes. Under no circumstances is the uterine cavity or the cervical canal to be invaded in the acute stage with injections or with swabs, for fear of extending the infection.

The time limit of the acute stage varies, but may be set at about four weeks. When the acute stage has subsided into the subacute or chronic stage, local treatment may be resorted to. Where the Fallopian tubes are affected, the patient must stay in bed as long as the fever and pain continue. In addition to rest, all such measures for the relief of pain and the depletion of the congested tissues, as hot douches, hot fomentations or hot poultices to the lower abdomen, may be employed. Opiates may be needed for pain. The bowels should be moved regularly, and preferably by salines if necessary. The diet should be light. Later, applications of tr. iodine should be made to the vaginal cul-de-sacs and glycerine tampons, well saturated, placed behind the cervix in the vagina. Prolonged hot water vaginal douches should be taken once or twice daily when the tampons are not in place.

The statistics of the etiology of gynecological operations, as I have thus found them and presented to you, do not point to gonorrheal infection as the extreme factor claimed by some. It may well be that the microscope would show many women to have gonorrheal infection where it has not been suspected; but they have no symptoms of it nor do they come for treatment because of it. It *may* extend in a minority of cases to the uterus and tubes and become serious; but even so the investigations made, as I have reported to you above, show that sterility or puerperal fever are by no means the *usual* sequelæ. Of course if a woman is sterile she will not have puerperal fever. The real gravity of the situation lies in the extreme views which have led to mutilating operations and the subsequent unhappiness of the patient.

In view of the present feeling for the need of public instruction in sex hygiene, I believe it well for physicians to have a clear and correct conception of the results of gonorrheal infection upon the pelvic organs of the woman, for it is there that the serious results are apparent. (I leave out any consideration of ophthalmia neonatorum.)

I have endeavored to give you the true view of these results, and whether 10% or 20% or a greater percentage of women can be shown by bacterial examination to have gonorrheal infection of the urethra, or elsewhere, yet the hospital practice of the best gynecologists of Boston indicate that the ratio of *all* operations upon the Fallopian tubes are only about 5% to 16% of *all gynecological operations*; and a deduction must be made from this to arrive at the proportion which are due to the gonococcus only.

The proportion of all operations upon the *tubes* to *all abdominal operations* (excluding appendectomies and those not upon the sexual organs) varies from 19% to 37% and up to 50% in the case of the Boston City Hospital. The proportion of gonorrheal to other pelvic inflammatory disease it is not possible to estimate from the hospital reports; but Gebhard's figures of bacterial examinations show about 22% of proven gonorrheal infection. It is true there were 226 sterile

cases in the 409 of tubal infection; but these cannot rightly be added to the gonorrheal cases.

I believe that statements which claim that the gonococcus infection in the woman is responsible for 60% or more of the operations for pelvic inflammation are decided exaggerations and should be modified in the interest of truth and proper teaching.

The statement that 45% of the cases of sterility are due to gonorrhea is also discredited by the reports of Bumm and Erb.

It is by no means my purpose to make light of gonorrheal infection in the woman, but to bring to your notice the real facts which should be the basis of the teaching of sexual hygiene, and the promotion of moral and social prophylaxis.

### THE PALLIATIVE AND OPERATIVE TREATMENT OF ANAL FISSURE.\*

BY T. CHITTENDEN HILL, M.D.,

Surgeon, Rectal Department, Boston Dispensary; Surgeon, Rectal Department, Mt. Sinai Hospital, Boston.

To claim that any one method is the best for all cases of anal fissure, I believe is hardly in accord with our present clinical experience, or to be expected when one considers the etiology and pathology of this affection.

Therefore, it will be the purpose of this paper to make a few practical suggestions regarding the various methods of treatment that have been proposed and are now employed for the relief of this affection.

Before beginning any form of treatment, however, it is first necessary to be quite sure one is dealing with an anal fissure.

Pain at the time of defecation is the leading symptom, but it should also be borne in mind that it may be produced by an abscess, thrombotic hemorrhoid, foreign body, stricture, syphilitic or gonorrheal ulceration, or even malignant disease; therefore, the diagnosis can only be determined by a rectal examination.

I prefer for this examination the semi-prone position with the thighs moderately flexed upon the abdomen. In this position the patient can be of material assistance by pulling upward upon one buttock, while the surgeon pulls downward upon the other. They by gently everting the radial folds at the anal orifice, as the patient strains down as in the act of defecation, a typical fissure may be readily seen at the muco-cutaneous juncture. As the lesion we are considering is so very painful, a pledget of cotton saturated with a 20% cocaine solution should be laid in the fissure and gently pressed well up into the anal canal and allowed to remain there for five minutes.

In nearly every instance this will enable one to complete the examination without much disturbance. The inspection alone may have rendered the diagnosis clear, still one should proceed with a digital exploration (speculæ should rarely if ever be used), especially of the lower inch of the bowel, to ascertain whether such complications

as internal hemorrhoids, submucous fistulæ, polypoid growths or other complications are present, and their probable influence on the particular line of treatment to be undertaken duly estimated.

These morbid conditions often complicating fissure have been carefully tabulated at St. Mark's, and, according to Goodsall and Miles, the frequency with which they occur is as follows: Polypoid growths, in male subjects 11%, in females, 22%; internal piles, 20% in males and 16% in females; blind internal fistulæ, 8% in males and 2% in females. The importance of dealing properly with these complications is obvious, and needs only to be mentioned in this connection. Perhaps the most important factor in determining the method of treatment to be pursued in a given case is the amount of spasm and hypertrophy of the external sphincter muscle. It is true, that in every case of anal fissure, more or less spasm and rigidity is noted, but in the recent and acute cases in which the ulcer is fresh in appearance and not deep, this will disappear after anesthetizing the parts as just described, and the sphincter will be found to yield very readily to gentle digital dilatation. In other words, the sphincter is sensitive, irritable and contracts spasmodically, but has not as yet become overdeveloped and excessively hypertrophied from the constant irritation of a fissure.

In the older and more chronic cases, however, the condition is quite different. The mucous membrane will be found to be much undermined — the muscle fibers are plainly visible, and the nerve filaments are exposed. In such a patient the whole musculature of the pelvic outlet will be found so rigid and contracted that it is even difficult to separate the nates.

Between these two extremes are all degrees of hypertrophy, and a little experience will enable one to so judge of this condition as to be able to select the best method for each case.

For example, a recent simple fissure without any hypertrophy of the external sphincter will invariably yield readily to *palliative treatment*; if there is only a slight degree of hypertrophy, *excision* of the fissure is sufficient; if there is a moderate degree only, dilatation under general anesthetic is probably the best treatment, but if there is much hypertrophy and spasm, *incision* is the only operation that can be safely relied on to give *permanent* relief.

#### PALLIATIVE TREATMENT.

In simple cases, usually of short duration, characterized by a shallow, red, linear tear, a palliative course of treatment should be tried, and is very generally successful. If, after cocainizing such an ulcer, the sphincters are found to be pliable and dilate as readily as the normal anus a cure without operative interference can be safely predicted. On the contrary, if the sphincters are not readily relaxed, it is best to adopt some other method or be guarded in one's prognosis.

In treating these simpler forms of fissure, it is

\* Read before the Clinical Society of the Mount Sinai Hospital Staff, Feb. 8, 1912.

advisable, at the first visit, to proceed with a moderate digital dilation, which is usually easily accomplished if one proceeds slowly and with gentleness, employing the "massage cadence," as described by the old French writers. If there are any unhealthy granulations, they may be curetted lightly.

If it is possible to do so, it is best to regulate the bowels by correction of dietary errors, aided by the nightly injection of olive oil. The oil softens or lubricates the outside of the stool and permits of an easy passage through the anus.

Many cases, however, require laxatives, and I have found cascara or comp. liquorice powder in small doses very satisfactory. There is nothing more irritating to a fissure than liquid stools, and for this reason active cathartics should be avoided altogether.

Next in importance to regulation of the bowels is cleanliness. The anus should be bathed night and morning with warm water and a sterile gauze dressing smeared with a simple ointment of calomel or boric acid, or if the pain is unusually severe, cocaine or morphine (gr. v-x) to the ounce may be applied to advantage.

The patient should be requested to call at intervals of four or five days, when the following local measures may be proceeded with.

After cocainizing the ulcer the sphincters are moderately stretched and an application of ichthol and glycerine 15%, or balsam of Peru 20% in castor oil applied upon a small pledget of cotton and allowed to remain for several hours.

Nitrate of silver, either as the pure stick or solutions of various strength, has long been a favorite application in anal fissure, and will occasionally produce rapid healing, but its routine use will often be disappointing. Tuttle recommends pure ichthol applied to the fissure two or three times a week. My own preference is for the milder protective applications of ichthol and balsam of Peru, depending on the gradual dilatation of the sphincters to effect a cure.

#### EXCISION.

This operation is applicable in a large percentage of cases not amenable to palliative treatment, and which do not require either dilatation or incision.

The operation in itself is a trivial one and consists in infiltrating under and around the fissure with  $\frac{1}{16}$  of 1% cocaine. A small fold of skin at the lower angle of the fissure, or the sentinel pile, if one is present, may now be seized with a pair of tissue forceps and the ulcer excised well up into the anal canal. A catgut suture may be inserted, if thought necessary, but the contraction of the sphincters is generally sufficient to keep the wound closed.

The more suitable cases for this operation are the more recent ones, where the ulcer is not too deep and where there is only a moderate degree of hypertrophy and spasm of the external sphincter.

#### DILATATION.

I cannot entirely agree with Lynch, of New York, who states, "Divulsion requires an anesthetic, increases the traumatism, causes extravasation, seldom gives permanent relief, and should have no place in the treatment of fissure." Still, I can say this, that any surgeon who depends upon this method exclusively will have a percentage of failures to record. The advantages of this operation are its simplicity, that there is no cutting, and but little after-treatment, and I have found it the method of choice in those cases where there is only a moderate degree of hypertrophy of the external sphincter, especially in children and elderly subjects.

The percentage of cures by this method are hard to estimate, as all cases are relieved temporarily, though some recur later. But if the cases are carefully selected, I believe that this operation, simple as it is, will prove eminently satisfactory, and that the cure will be permanent.

#### INCISION.

This method has found almost universal favor among American proctologists and is practiced exclusively at the special hospitals for rectal diseases, St. Mark's and Gordons, in London.

As first practised it consisted of a single complete division of all the fibers of the external sphincter muscle through the base of the fissure. It is now considered better practice to divide the muscle just to the right or left of the posterior median line, without regard to the location of the ulcer. The object of the operation is to eliminate the spasmodic action of the sphincters and so give the fissures a chance to heal.

The incision should be made at right angles to the direction of the muscle fibers and carried outward for at least an inch to secure good drainage. It is important that the whole of the external muscle should be divided, and equally important to remember that one should be very careful not to injure the internal sphincter, as its division is invariably followed by some loss of control, if not absolute incontinence. Incision can be performed under local anesthesia in the majority of cases, and is performed as follows:

With a long, fine-pointed needle begin the infiltration in the epidermis about  $1\frac{1}{2}$  inches from the anus. Slowly infiltrate about the fissure and sentinel pile, if one is present. Then insert the finger in the anal orifice and feel the interval between the external and internal sphincter and press outward. This renders the external sphincter prominent, so that it can be divided with a scalpel as an assistant sponges the line of incision, so that one is aware when the deepest fibers have been severed. Any exuberant granulations or undermined mucous membrane adjacent to the fissure should now be removed. If any polypoid growths are felt they should be snipped off and the

line of incision packed as is customarily done after fistulæ operations.

The results following this operation are always excellent, and any case of fissure, whether single or multiple, or whatever its location, can be cured and the cure will be permanent.

### A DELICATE METHOD FOR OBTAINING HEMIN CRYSTALS FROM MINUTE BLOOD STAINS.\*

BY WILLIAM F. WHITNEY, M.D., BOSTON.

IN testing a suspected stain for human blood, it must be shown first that it is blood, and then the serum test is of value as proving its origin. The formation of hemin crystals from the coloring matter of the blood is accepted by the courts as proof of its presence in a stain. These crystals are obtained by heating the suspected substance with glacial acetic acid, as first described by Teichmann in 1855. If the material is abundant there is usually no difficulty in performing the test, and large and characteristic crystals are readily formed. But glacial acetic acid has a tendency to evaporate with explosive violence when heated, and from this fact the crystals are apt to be entirely lost if the amount of material is very small. Even when Strzysowski's modification (glacial acetic acid, alcohol and water, equal parts) is used, the ebullition is apt to carry away the crystals.

On this account, another solvent was sought which should evaporate from the periphery toward the center within the area of the original drop, and thus concentrate the solution. This was found in formic acid, sp. gr. 1.20 (Merck). If a drop of this acid is placed on a glass slide and allowed to evaporate at the temperature of the air, or after gently heating, it will be seen to disappear gradually from the periphery to the center. A drop of glacial acetic acid, on the other hand, does not hold together, but spreads over the slide and evaporates instantly.

With these facts in mind, I worked out the following method: A minute fragment of the suspected substance, a scraping from a stain or a bit of stained fiber is placed on a slide and a very small drop of formic acid, sp. gr. 1.20 (Merck), is brought over this with a glass rod. Over the drop is inverted a small watch glass, which should not touch it, nor project beyond the edge of the slide. A gentle heat is applied directly beneath the drop, and the moment condensation is seen on the inside of the watch glass over the drop, the heat is discontinued, the watch glass lifted off and the remainder of the fluid allowed to evaporate in the air. When dried, it can be examined microscopically and mounted permanently in a drop of Canada balsam. The crystals are very small, usually requiring a high dry or oil immersion lens to see them well, but they are so numerous that they cannot be overlooked. A second application of

acid does not seem to make them any larger. But the fact that the crystals are very small shows that only a minute quantity of blood coloring matter is necessary for their formation, and speaks for the delicacy of the method. In practice it has been found that the addition of a very little hydrobromic acid<sup>1</sup> [hydrobromic acid 34% (Merck), 1 drop; acid formic sp. gr. 1.20 (Merck), 4 ccm.] gives darker and more numerous crystals than with formic acid alone.

In regard to delicacy, crystals have been obtained occasionally from a small drop, dried on the slide, of a mixture of one drop of blood with two hundred of water, while from a mixture of one to fifty, they were always obtained.

The advantages claimed for this method are:

1. The ease and rapidity with which it can be performed, as it can be directly applied to the suspected substance, and the whole procedure takes less than a minute.

2. Its extreme delicacy.

<sup>1</sup> The acids of the other halogens and their salts have been tried, but the above combination gave the best result.

### Clinical Department.

#### RUPTURE OF THE BOWEL FROM COMPRESSED AIR; OPERATION; RECOVERY.

BY F. J. COTTON, A.M., M.D., BOSTON.

IF one stops to think of it, most of our accidents to-day are a result of the resulting complexity (usually called progress) of our civilization.

Of late years only have we had compressed air to deal with, first in caissons; second as a means of transmission of power,—in the operation of brakes, of hammers, in the pneumatic riveting "guns," etc.

Each industrial innovation has its peculiar disease or accident. Compressed air first brought us the "caisson-disease,"—the "bens" as the workers phrase it, now familiar to all. Accidents from compressed-air transmission of power are, however, incident not to actual work, but to idiotic joking with the power at hand.

I have seen occasional reports of bowel-rupture under air, gas, and water pressure (applied in variously unfitting ways) in the current literature, but until a recent article appeared,<sup>1</sup> I had not realized the total of reported cases of the sort.

The case here presented, which occurred some time since, is offered partly for record and because of the neat result, partly because it illustrates a detail in technic of which I shall have more to say later, namely, the relief of intra-intestinal pressure in a damaged gut.

R. S., a boy of sixteen years, was admitted to the Boston City Hospital Aug. 8, 1910, with the history that a fellow-employee at the boiler-works had, in an alleged jest, seized him and brought the nozzle of a compressed-air tube up against, not into, his anus, outside his clothing, and then had turned the current loose. The victim suffered sudden sharp pain and fainted. He was immediately brought to the City

\* Read before the Massachusetts Medico-Legal Society, Jan. 30, 1912.

<sup>1</sup> E. Wyllys Andrews: Surg., Gynec. and Obstet., January, 1911, p. 63.

Hospital, and I saw him within a few minutes after his arrival.

He was a slightly-built lad, small for his age, but apparently healthy. At this time he showed a good deal of shock and complained of pain, obviously very severe. The abdomen showed extreme distention and exquisite universal tenderness. It was everywhere tympanitic, with a *uniform note* of tympany. The diagnosis of gut-rupture was made immediately, but under the hospital rules nothing could be done without parental permission. He was made more comfortable with  $\frac{1}{4}$  gr. of morphine (subcutaneously), and blankets and heaters were applied to help shock-recovery.

About two hours later the parental permission was given, and he was immediately etherized.

A long incision was made in the median line. Before opening the peritoneum the wound was filled with normal salt solution. When the peritoneum was opened, large amounts of air burst and bubbled through this fluid in the wound. The incision was then completed, and inspection showed multiple hemorrhages (subperitoneal) of the whole large intestine. There was practically no free blood in the belly. At various points in the sigmoid and in the descending and transverse colon the peritoneum was torn, without deeper tears; and at five places in the sigmoid and the descending colon the longitudinal bands were torn as well as the peritoneum. These bands were very well developed in this individual, but were at these points torn clean across and the torn ends were uniformly separated for a distance of about three inches, with an associated tearing of the peritoneum, but without damage to the deeper muscle-layers.

The tears were treated by catgut-suturing of the longitudinal bands, and by closure of these and of other peritoneal tears with sutures of Pagenstecher linen thread.

At the splenic flexure and near the hepatic flexure there were hematomata of considerable size, intramesenteric, and apparently not associated with any rupture of the gut. As the circulation of the gut at these points seemed undisturbed, these hematomata were let alone. Further search showed in the ascending colon not only multiple hemorrhages and slight peritoneal tears, but also, just above the base of the cecum, a perforation of the bowel. The perforation was roughly circular, something under one-half inch in diameter, not bleeding.

A "Mixer" right-angled glass tube was sewed into the opening and a rubber tube attached.

Careful search failed to show other perforations or other serious lesions. The abdomen was washed out with normal salt solution and closed tight, save for two small gauze drains. The Mixer tube was brought out through a small incision made for it near McBurney's point.

Recovery from the operation was prompt, and the convalescence was uneventful.

Two days after the operation the bowel contents were draining freely through the tube.

At four days the wicks were removed.

At eight days the tube came out spontaneously, leaving a fistula which closed on the sixteenth day, after which date all feces were passed by rectum. At this time he was put on a solid diet.

He never complained of pain, and there was at no time any more than very slight abdominal distention. The temperature ran up to 101° F. on the fourth day (clot absorption?), but apart from that time it never ran over 100°, though it did not drop to a consistent normal range until two weeks after the operation. There was at no time any sign of infection.

Just three weeks after the accident he was sent home

in excellent condition. He was sent away into the country, and I have not seen him since. His mother wrote, however, under date of March 9, 1911 (in response to a letter of inquiry), that "Richard is doing splendidly," that he wrote a week previously saying that his weight had gone from 105 lb. to 137, and "he felt great," so it seems that he has flourished.

This case shows a different picture from the average case of pneumatic bowel-rupture in that the damage lay farther from the anus than usual, presumably because of a lower or less efficiently applied pressure. In one case recorded by Andrews (Kahlke's case) the damage extended back to the cecum but with an enormous longitudinal tear.

The rupture of the longitudinal bands seems not to have been recorded in any case previous to the one here reported. The mortality in Andrews' series was 75%.<sup>2</sup> Recovery depends on early and efficient operation. Cases operated on within three or four hours would doubtless show excellent figures as to recovery.

As to technic, it seems to me that the procedure followed in this case has much to commend it. For years it has been my custom to use enterostomy tubes in all cases in which gut of doubtful strength or vitality must otherwise be left under conditions of probably increased internal pressure from gas, due to atony of the gut from any cause. This applies not only to direct rupture, as here, but to perforations (typhoid or other) and to the handling of doubtful bits of gut in strangulated hernia.<sup>3</sup>

I believe resection of bowel (an operation of frightful mortality in these acute cases already suffering grave shock, could we only get the real figures of the operative deaths) can be avoided in very many cases in this way.

A "Paul" or "Mixer" tube takes about a minute to insert, it instantly cancels positive pressure within the gut for some distance on either side of its point of insertion and also gives exit to feces which must often be (as we know to be the case in strangulated hernia) of unusually toxic character.

Such drainage and abolition of pressure must not only safeguard any stitching done in the vicinity, but must also give the best possible conditions for restoring to life any portions of gut in which circulation and general vitality are in doubt.

## Reports of Societies.

### BOSTON SOCIETY OF MEDICAL SCIENCES.

MEETING OF MARCH 26, 1911.

DR. W. B. CANNON and DR. L. B. NICE read a paper on

#### THE EFFECT OF SPLANCHNIC STIMULATION ON MUSCULAR FATIGUE.

The right tibialis anticus muscle is stimulated through its isolated nerve with single induction shocks, between 120 and 180 times per minute, until it is recording a

<sup>2</sup> But in only seven of these cases was adequate treatment carried out.

<sup>3</sup> It was in these hernia cases that I first developed this technic.

uniform fatigue curve. Brief stimulation of the isolated left splanchnic nerve now results in a sharp rise and fall in the fatigue curve, followed by a slower rise and fall which may last from three to five minutes. The increase of muscular efficiency during the second rise may amount to 100%. The sharp rise is due to increased blood pressure from constriction of the splanchnic area; it fails to appear if the gastro-intestinal tract is removed or the arteries are clamped. The slow rise is due to adrenal stimulation; it fails to appear when all adrenal vessels are ligated; and if the adrenal veins are clamped, it is delayed until the clamps are removed.

Increased adrenalin in the blood can conceivably increase the efficiency of skeletal muscle directly (experiments of Dessy and Grandis on isolated skeletal muscle), or by increasing blood pressure and thereby bettering the circulation. Injection of adrenalin in our experiments (2 ccm. of 1:100,000) increased the height of the fatigue curve for more than eighteen minutes after blood pressure returned to the original level.

Emotional increase of sugar and adrenalin in the blood, as already reported, accompanies fear and rage. These major excitements are likely to be attended in wild life by the necessity of running or fighting. Sugar would supply energy, and adrenalin would tend to obviate fatigue in the laboring muscles. The ability to continue during excitement, prolonged efforts, ordinarily exhausting, can thus in part be explained.

### Book Reviews.

*The Mechanical Factors of Digestion.* By WALTER B. CANNON, A.M., M.D., George Higginson Professor of Physiology, Harvard University. Illustrated. London: Edward Arnold. New York: Longmans, Green & Co. 1911.

This volume is the first of a projected series of International Medical Monographs, intended, in the words of the general editors' preface, to present "contributions to the domain of the medical sciences on subjects of immediate interest, made by first-hand authorities who have been engaged in extending the confines of knowledge." A better selection of an initial author in this category could not have been made than Dr. Cannon, whose impartial and judicious temperament as an investigator and whose attractive style in the exposition of his results particularly fit him for research and for teaching. Dr. Cannon was the originator of the method of studying movements of the alimentary tract by means of the Roentgen ray, and the present volume represents the ripe cumulation of his laboratory experience with this subject for the past fifteen years. It contains sixteen correlated chapters, each presenting original experimental work on a selected topic, such as "The Nervous Control of Deglutition," "The Movements of the Stomach," "The Acid Control of the Pylorus." At the close of each chapter is a table of well-selected references to the literature of the special topic, and at the end of the book is a list of twenty-seven "publications from the laboratory of physiology of Harvard University" by Dr.

Cannon and others, bearing on the general subject of the mechanical factors of digestion. Dr. Cannon's researches, as presented in this volume, deserve the highest praise as valuable original experimental contributions to the knowledge of the physiology of digestion.

*Hieronymus Fracastor's Syphilis.* From the Original Latin. A Translation in Prose of Fracastor's Immortal Poem. St. Louis: The Philmar Company. 1911.

For nearly four centuries since its publication in 1530, this medical Latin poem has been known only to scholars and dilettanti as a curiosity of literature. Its style and much of its machinery are, of course, merely imitative; but its subject matter makes it unique, and its title has had the distinction of supplanting all previous appellations as the name of the malady in question. It derives additional interest also from association with the learned professor of logic at Padua, who was its author, and from his patron, the notorious Bembo. Its clinical descriptions of syphilis are admirable, and its references to "the nymph America," and to the New World as the source of guaiac, the drug then expected to cure the infection, are of peculiar historic value. The present English prose translation is well-rendered and places within reach of modern physicians this exceedingly interesting composition, which at once is a valuable document in the history of medicine and is unique in literature as the epic of a disease.

*A Handbook of Practical Treatment.* By Many Writers. Edited by JOHN H. MUSSEY, M.D., LL.D., and A. O. J. KELLY, A.M., M.D. Volume III. Philadelphia and London: W. B. Saunders Company. 1912.

The first two volumes of this extensive work were reviewed in the issue of the JOURNAL for June 8, 1911 (vol. clxiv, p. 824). This third and last volume includes consideration of the treatment of the constitutional diseases, of diseases of the respiratory, digestive, urinary and nervous systems, and of diseases of the muscles and of the mind. The contributors are all men of distinction in their special fields. Particularly to be mentioned are the chapters by Dr. Joel E. Goldthwait on the "Surgical Treatment of Arthritis Deformans," by Dr. Chevalier Jackson on the "Treatment of Tracheal and Bronchial Obstructions," by Dr. Samuel Robinson on "The Surgery of Infectious Diseases of the Lung and Pleura," by Dr. Maynard Ladd on the "Gastro-Enteric Diseases of Infants and Children," by Dr. Joseph Sailer on "Visceroptosis," by Dr. John H. Gibbon on the "Surgical Treatment of Visceroptosis," by Dr. E. W. Taylor on "Diseases of the Spinal Meninges and Spinal Cord" and "Diseases of the Spinal Nerves," and by Dr. John Homans on "The Surgical Treatment of Diseases of the Spinal Cord." The volume is concluded with an admirable index.

The completion of so monumental a work is cause of congratulation not only to the contributors, but to the editors, who have discharged



their coördinative function with unusual skill and discretion and have placed before the American profession a therapeutic compendium of great and permanent value.

*The Orientation of Buildings or Planning for Sunlight.* By WILLIAM ATKINSON. First edition. Illustrated. New York: John Wiley & Sons. 1912.

The purpose of this book, as stated in its preface, is "to set forth the principles which ought to govern the planning of buildings with respect to sunlight." Of this subject the author has made an especial study, and to the solution of its problems has applied the scientific methods of astronomy and mathematics. In the two initial chapters he outlines these methods and laws, illustrating them with geometric "shadow diagrams." In the two closing chapters he considers the application of these principles particularly to the construction of hospitals and the laying-out of streets. Three appendices include some astronomic tables and abstracts from the building regulations of Paris and the principal cities of Canada and the United States.

The subject of orientation is one of considerable hygienic importance. Its theories were understood and practiced by ancient peoples, though for religious motives chiefly; but modern builders have largely forgotten or neglected them. As a Fellow of the Boston Society of Architects, Mr. Atkinson may be considered to speak with authority. It is to be hoped that his research will stimulate renewed interest in the study and more extensive application of the methods of scientific orientation.

*Studies from the Rockefeller Institute for Medical Research.* Volume XIII. New York. 1911.

This thirteenth volume of reprints from the Rockefeller Institute consists of fifty-four papers, in English and in German, based on original research done in the laboratories of the Institute, and well illustrated with seventy-seven plates and a few minor figures in the text. The subjects of investigation are widely varied, the most important perhaps being those concerned with the problems of malignant disease, and with the cultivation of animal and human tissues and tumors *in vitro*. The collection forms an important contribution to the literature and progress of the higher medical research.

*Scientific Features of Modern Medicine.* By FREDERIC S. LEE, Ph.D., Dalton Professor of Physiology, Columbia University. New York: The Columbia University Press. 1911.

This volume consists of the eight Jesup Lectures delivered by the author in February and March, 1911. The purpose of the series was to present to the educated laity the principles, scientific aspects and aims of modern medicine and medical research. This it does in an altogether legitimate fashion and with considerable clearness and attractiveness of exposition.

The lectures deal respectively with "The

Normal Human Body," "The Nature of Disease," "Methods of Treating Disease," "Bacteria and Protozoa," "Prevention of Infectious Diseases," "The Problem of Cancer," "Features of Modern Surgery" and "The Role of Experiment in Medicine." Perhaps the least successful is the chapter on surgery, where the author's lack of surgical experience leads him to present the subject too much as it would appear to an outsider. Indeed, throughout the book his bias as a physiologist is naturally enough obvious. Perhaps for this very reason his best chapter is the last, in which he very ably explains and defends animal experimentation and defines the proper relations of the public and the medical profession. This chapter should be remembered as useful argument against anti-vivisectionists, being a statement of the case very humane and moderate and just to their side of the question.

As a whole, this book is a worthy contribution to popular medical literature. Though written primarily for laymen, it makes good reading for doctors, too; for it presents not solely the substance but the rationale of medicine, a thing of which they are sometimes in danger of losing sight.

*Topographic and Surgical Anatomy of the Thymus.* By DR. EUGÈNE OLIVIER. Paris: G. Steinheil. 1911.

The surgery of the thymus is one of the newer topics of modern medicine. The present work, which is the author's inaugural thesis, represents his study of this subject during the four years of his internship in the hospitals of Paris, and is based on twelve cases of his personal observation and thirty-one other cases published in the literature prior to the 1st of October, 1911. In thirty-nine of these forty-three cases thymectomy was performed.

Olivier's treatise is divided into two parts. The first deals with the topographic anatomy of the thymus, and is well illustrated with six figures in the text and one full-page plate, five of the former representing frozen cross-sections. The second part deals with the surgery of the thymus, especially as regards the surgical treatment of hypertrophy of the thymus. After a summary of previous animal experimentations on this subject the author describes the three procedures upon the thymus that have been performed successfully in man, namely, exothymopexy, resection of the manubrium sterni and thymectomy, and describes particularly in detail the operative technic of subtotal, subcapsular thymectomy. This portion of the work is illustrated by ten excellent figures in the text. From a study of his cases he concludes that though thymectomy is a very grave procedure in a child with tracheobronchic adenopathy, yet the operation in itself, without drainage, tracheotomy or concomitant removal of septic organs, such as infected nodes, is an operation without mortality, essentially benign, the shock which it causes being never sufficient to hasten the death of a child.

Olivier further considers the value and the



indications of thymectomy in the different clinical forms of thymic hypertrophy, which he classifies as continuous, dyspneic, dysphagic, stridorous, intermittent, cyanotic and hypertrophic. In connection with each of these, he discusses the immediate and ultimate functional results as exemplified in his series of cases. This portion of the work is illustrated by two admirable radiographs. The observations on the cases are classified and presented at length, and the conclusions are carefully summarized. The work is supplemented by an alphabetic bibliographic index of 142 references, by a table of contents and by a table presenting the statistics of the thirty-nine operated cases. It is a very thorough, painstaking and complete digest of present knowledge on the subject and should be of great value for reading and reference.

*Sanitary Statistics of the Italian Army for the Years 1907 and 1908.* Rome: Italian Polygraphic Office. 1911.

This large unbound folio volume, presenting the health statistics of the Italian army for the biennium 1907-1908 consists chiefly of tables and charts. In compiling these a new nosologic system has been adopted, in which the various disease forms are classified with more strictly scientific criteria. This innovation has required some modification in the regrouping of diseases, but the number of groups is not altered, and they are so coördinated that the system of compilation remains integral and the continuity with preceding statistics undisturbed. The volume is of interest and value for reference for those concerned with the problems of military medicine and army hygiene.

*Transactions of the American Surgical Association.* Vol. XXIX. Edited by ARCHIBALD MACLAREN, M.D. Philadelphia: William J. Dornan. 1911.

This volume consists of the papers presented at the meeting of the Association in June, 1911, and contains a large amount of varied and interesting material. Among the articles particularly to be noted are those by Stiles, on "Epispadias in the Female"; by Bevan, on "The Choice of an Anesthetic"; by Meltzer, on "Intratracheal Insufflation"; by W. J. Mayo, on "Ulcer of the Stomach and Duodenum"; by C. H. Mayo, on "Tumors of the Vomer"; by Lund, on "Obstruction of the Ileum by a Gallstone"; by Scudder and Goodall, on "Appendectomy"; and by M. H. Richardson, on "The Error of Overlooking Ureteral or Renal Stone under the Diagnosis of Appendicitis." The paper by Mears, on "The Triumph of American Medicine in the Construction of the Panama Canal," has been published in book form and was reviewed in the issue of the JOURNAL for Feb. 15, 1912 (vol. clxvi, p. 258).

*Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States.* For the Fiscal Year 1911. Washington: Government Printing Office. 1912.

This is the fortieth annual report of the service in the one hundred and thirteenth year of its existence, the tenth annual report under its present name, and the last submitted by the late Dr. Walter Wyman. It records the transactions and operations of the service for the year ended June 30, 1911, including numerous reports of scientific research already published in the weekly bulletins, and noted from time to time in the columns of the JOURNAL. There is also the usual record of maritime and of domestic interstate quarantine.

Among the reports of immigrant inspecting officers may be noted particularly that from Boston, in which Dr. M. V. Safford calls attention to the fact that an increasingly large number of immigrants come to this port as cabin passengers, and are, therefore, not subjected to the same rigid scrutiny as the steerage. In 1911 about 25% of the aliens arriving in Boston came as cabin passengers. Of these, over 7% were found to be seriously defective or diseased, as against 4% of those who came in the steerage. There has been a decline in the number of persons excluded for trachoma and insanity, and an increase in exclusions for uncinariasis.

In conclusion, Dr. Wyman noted, as the most urgent needs of the service, increased funds for suppression of epidemics, for hygiene publications, for increased clinical service, for the study and eradication of pellagra, for increased salaries for officers of the service, and \$25,000 for a new building for the Hygienic Laboratory at Washington, "to replace temporary structures and provide space for special researches, disinfection experiments and housing of small laboratory animals."

*On the Physiology of the Semicircular Canals and Their Relation to Seasickness.* By JOSEPH BYRNE, A.M., M.D., LL.B. New York: J. T. Dougherty. 1912.

This book, which is the outcome of the author's studies upon the etiology of seasickness, presents the data of a large amount of his experimental investigations into the physiology of the semicircular canals. In Part I are considered the anatomy of these structures, their relation to the internal ear and the eighth nerve, and their correlation with pupillary movements. In Part II are discussed their physiology from the standpoint of animal experimentation, and their correlation with equilibrium, digestion, and nystagmus. In Part III are presented the history and literature of seasickness, experimental studies in seasickness (chiefly upon the author), a discussion of the etiology of seasickness and outlines of suggested methods for its treatment. The author believes that in ordinary conditions of health "seasickness is primarily the response of the organism to repeated and irregular forms of labyrinthine stimulation," a symptom-complex dependent on the correlated functions of eyes, semicircular canals and stomach. His suggested treatment is chiefly dietetic and hygienic. There is an extensive bibliography of 288 titles.

# THE BOSTON Medical and Surgical Journal.

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## REPORT OF THE BRITISH ROYAL COMMISSION ON VIVISECTION.

On Sept. 17, 1906, there was appointed in England a Royal Commission, under the chairmanship of Lord Selby, "to inquire into and report upon the practice of subjecting live animals to experiments, whether by vivisection or otherwise; to inquire into the law relating to that practice and its administration; and to report whether any, and if so what, changes in that law are desirable." This commission pursued its investigations with the deliberation and thoroughness said to be characteristic of many British procedures. Several members of the commission, including Lord Selby, died during the course of these investigations, and the chairmanship was vested in Mr. Abel John Ram, K.C. Over seventy sessions were held, a large number of witnesses was examined, numerous medical and other scientific papers and memoranda were received, and exhaustive evidence and data collected. At last the commission has completed its work and published a final report, which is signed by all the surviving commissioners, but subject to certain "reservations" on the part of three members, presented as a minority report, and to certain further reservations on the part of one of these three, contained in an appended memorandum which is longer than the primary report of the majority. The entire document is one of considerable importance, representing as it does the official finding on such aspects of the question as have developed since the report of a previous similar commission in 1875, which led to the passage in 1876 of the present Act of Parliament regulating the practice of animal experimentation.

After reviewing the history of vivisection and

of its legislative control, the new report proceeds to consider in detail specific allegations of cruelty made by Mr. Stephen Coleridge and Miss Lindaf-Hageby, writer of an important anti-vivisection book entitled "The Shambles of Science." These allegations the commission finds to have been "based on misapprehension"; and on examining the charges of other witnesses, the commissioners conclude that the latter have "either misapprehended or inaccurately described the facts of the experiments." The report declares that "with rare exceptions holders of licenses and certificates have endeavored with loyalty and good faith to conform to the provisions of the law," and the commissioners continue:

"We desire further to state that the harrowing descriptions and illustrations of operations inflicted on animals, which are freely circulated by post, advertisement or otherwise, are in many cases calculated to mislead the public, so far as they suggest that the animals in question were not under an anesthetic. To represent that animals subjected to experiments in this country are wantonly tortured would, in our opinion, be absolutely false."

The report next inquires into the recent history of the progress of medical science based on animal experimentation, and finds that such experiments have produced valuable results not only in the knowledge of physiology, but also in the prevention and cure of human disease. In evidence that the experimental method and its results have been appreciated by the public, the commission cites as examples —

"1. The foundation of schools of tropical medicine, subsidized by the Colonial Office and colonial governments, and the appointment of research expeditions or commissions to investigate on the spot such diseases as sleeping sickness, plague, malaria, Malta fever.

"2. The foundation of an Imperial Research Fund for the purpose of investigating cancer.

"3. The appointment of a Royal Commission to investigate by experimental methods and otherwise that great scourge to the human race, tuberculosis."

As a result of their investigations the commissioners then judicially continue as follows:

"Having regard to the witnesses who have appeared before us, and to the evidence which we have received, there can be no doubt that the great preponderance of medical and scientific authority is against the opponents of vivisection. This is more markedly so now than was the case before the Royal Commission of 1875.

"On these questions, and apart altogether from the moral and ethical questions involved

in the employment of experiments on living animals for scientific purposes, we are, after full consideration, led to think:

"1. That certain results claimed from time to time to have been proved by experiments upon living animals and alleged to have been beneficial in preventing or curing disease have, on further investigation and experience, been found to be fallacious or useless.

"2. That, notwithstanding such failures, valuable knowledge has been acquired in regard to physiological processes and the causation of disease, and that useful methods for the prevention, cure and treatment of certain diseases have resulted from experimental investigation upon living animals.

"3. That, as far as we can judge, it is highly improbable that, without experiments made on animals, mankind would at the present time have been in possession of such knowledge.

"4. That, in so far as disease has been successfully prevented or its mortality reduced, suffering has been diminished in man and in lower animals.

"5. That there is ground for believing that similar methods of investigation, if pursued in the future, will be attended with similar results."

The report next considers the question of anesthesia in animal experimentation. It points out that some important experiments performed on animals either are painless or involve such trifling pain as to require no anesthetic, but expresses the conviction that anesthesia during animal experimentation is and should be generally practiced. The commissioners add:

"We are satisfied by the evidence that in the great majority of the experiments under the act the animals do not exhibit any symptoms suggestive of severe pain, and to require the immediate destruction of an animal as soon as it exhibits such symptoms might, in our opinion, put an insuperable obstacle in the way of investigating many widespread diseases (afflicting both men and domesticated animals) with respect to which further knowledge as to their nature and treatment is, in the interest of humanity, urgently required.

"It must not be forgotten that it is in the case of diseases which are naturally painful when they attack men or animals that experiments are most likely to involve pain to animals which are experimentally infected; as examples we may instance cancer, cholera, plague, tetanus, rabies, and snake bite.

"We are compelled to accept the weighty evidence given before us to the effect that the study of animals experimentally infected with some of these diseases has given us knowledge which has been instrumental in saving much mortality and suffering both in man and animals, and we believe that discoveries already made in this way justify the hope that by the same methods knowledge may yet be extended regarding the means of preventing or curing other most painful

diseases which are at present scarcely or not at all amenable to treatment. And finally we feel that as long as public opinion sanctions the infliction on animals of pain, which is not only severe but of long duration, in the pursuit of sport, and in carrying out such operations as castration and spaying, or in the destruction of rabbits and of rats and other vermin by traps and painful poisons, it would be inconsistent and unreasonable to go further than we have already gone in limiting experiments which are designed to result and, according to experience, will probably result, in preventing or alleviating great human or animal suffering."

The commission then proceeds to formulate the following series of recommendations relative to additional administrative safeguards in the regulation and control of vivisection. It advocates—

"1. An increase in the inspectorate.

"2. Further limitations as regards the use of curare, during the employment of which it is recommended that an inspector should be present from the commencement of the experiment, and that he should satisfy himself that during its whole course and until death the animal is in a state of complete anesthesia.

"3. Stricter provisions as to the definition and practice of pithing, which should be performed only by a licensed person and under an adequate anesthetic.

"4. Additional restrictions regulating the painless destruction of animals which show signs of suffering after experiment.

"5. A change in the method of selecting and in the constitution of the advisory body to the Secretary of State; as to which it is recommended that the position now held by the Council of the Society for the Advancement of Medicine by Research should be transferred to advisers selected by the Secretary of State from a list of names submitted to him by the Royal Society and the Royal Colleges of Physicians and Surgeons in London; and

"6. The keeping of special records by experimenters in certain cases."

In addition, the report further recommends—

"1. That an inspector should have power to order the painless destruction of any animal which, having been the subject of any experiment, shows signs of obvious suffering or considerable pain, even though the object of the experiment may not have been attained; and

"2. That in all cases in which in the opinion of the experimenter the animal is suffering severe pain which is likely to endure it shall be his duty to cause its painless death even though the object of the experiment has not been attained."

With regard to the enforcement of the anesthesia requirement, the commissioners state:

"We regret that we cannot recommend any further extension of the 'pain condition.' We are anxious, as far as possible, to prevent or to limit animal suffering in every case. We have recommended that there should be increased inspection, that wide powers should be given to inspectors to order the painless destruction of any animal under experiment, and that in future, although the object of the experiment has not been attained, no animal should be allowed to live in severe pain which is likely to endure. But we do not feel justified in recommending that, when the object of the experiment has not been attained, an experimenter should in all cases be required to destroy the animal immediately it exhibits signs even of severe pain, which might in some cases be only momentary."

The report makes a rather peculiar differentiation of the kinds of animals that may be utilized for experimentation.

"As regards the different classes of animals used for experiments and the possibility of making discrimination between them for such purpose, we are again confronted with a delicate question of relative ethics. There can be little doubt that the general moral sense of civilized mankind would be prepared to make such differentiation and would regard with quite a different degree of reprobation the like treatment for such purpose of one of the domesticated animals on the one hand with that of cold-blooded or indeed verminous or destructive animals on the other hand. The difference in such case would probably be found to consist in the degree of association with or of affinity or utility to man. We feel that recognition should be accorded to the reality and worthiness of such underlying sentiment which would secure a special reservation for animals coming within the aforesaid limits. Thus we think that the higher apes (anthropoid) and the dog and cat present claims for special consideration."

Finally, however, the commissioners gratifyingly sum up their conclusions by a complete endorsement of the practice of animal experimentation under proper restrictions.

"After full consideration we are led to the conclusion that experiments upon animals, adequately safeguarded by law, faithfully administered, are morally justifiable and should not be prohibited by legislation."

In the minority report the three anti-vivisectionist members of the commission dissent from their colleagues' more liberal construction of the "pain condition," make several minor suggestions and recommend —

"1. That all investigations upon living animals of an experimental nature by way of operation, inoculation or infection, shall be conducted only under the sanction and undivided responsibility

of the Secretary of State, aided by skilled advisers, and exercising control and supervision by an adequate staff of inspectors.

"2. That all investigations which in the absence of anesthesia would be likely to cause pain or suffering shall be conducted under adequate anesthetics, skillfully and humanely administered, or if the nature of the investigation render this impracticable, then that on the super-vention of real or obvious suffering the animal shall be forthwith painlessly killed."

By anti-vivisectionists in England the entire report is said to be regarded as "justifying their worst fears." By the majority of reasonable persons, however, it is considered as vindicating the practice of animal experimentation under due restrictions. In a letter on the subject to the *London Times*, Lord Cromer says in part:

"The report of the Royal Commission on Vivisection, which has just been published, is an eminently judicial document. It should or ought to be welcomed alike by the supporters and opponents of vivisection, as also by that very large section of the community which has not taken any part in the controversy which has raged over this subject, but which wishes to be informed of the true facts of the case. It is noteworthy that on all important points of principle the commissioners, amongst whom anti-vivisectionist views were well represented, are unanimous.

"Advancing years and failing health oblige me to retire from the position which I have recently held of president of the Research Defence Society. I have not as yet had time to consult other members of the society, but on the eve of my retirement I wish to express the personal opinions which I have so far been able to form in connection with a subject in which I am deeply interested.

"I do not think that any impartial person will be able to read this illuminating report without coming to the conclusion that, broadly speaking, the supporters of vivisection have proved their case. The charges brought by Mr. Stephen Coleridge against the Home Office have for the most part been unable to stand the test of cross-examination, whilst it has been clearly shown that the statements made by some of the more extreme anti-vivisectionists are either unfounded, exaggerated or the result of misapprehension.

"I have always maintained that the infliction of unnecessary pain was as abhorrent to the members of the Research Defence Society as to any other members of the community, and that although it would probably be impossible to obviate it entirely, at the same time any proposals which could be made with a view to reducing suffering to a minimum ought to receive the most sympathetic attention."

Commenting editorially on the report of the commissioners, a recent issue of the *Times* says:

"Their ultimate admission, however, that 'valuable knowledge' has been acquired by experiments upon living animals is couched in language so inadequate to the expression of the facts that we can only regard it as an example of the lack of the imagination sometimes attendant upon abilities which are more than respectable in other directions of mental effort. The French sacrificed something like fifty thousand lives in a vain endeavor to construct the Panama Canal, and were compelled after all to leave the undertaking as a derelict. Experiments on living animals showed the way in which the causes of this mortality might be removed, and the government and the public opinion of the United States were sufficiently enlightened to resume the work under the conditions which science had pointed out as essential to its success. The completion of the canal is no longer doubtful, and, alike in the certain and in the possible consequences of its existence, it is an enterprise to the description of which the word 'valuable' seems inadequate. If we take a smaller matter, which is mentioned by the commissioners, the reduction in the prevalence of Malta fever from an annual average of one hundred and thirty cases during the ten years 1897-1906 to a single case in 1907 is by no means a small result to be yielded as the consequence of a single investigation; and it must be borne in mind that experimental investigators, who bring to light new truths about the causation or diffusion of disease, are generally dependent upon others, upon governments or administrators, for the possibility of rendering their discoveries useful to mankind. The deliverance of Havana from yellow fever, and that of the Isthmus of Panama alike from this and from other insect-borne diseases, is directly due to experiments made upon living animals. The commission has been more than five years in existence, and it has been freely accessible to all persons who were or fancied themselves in a position to criticise any of the proceedings which were the subjects of inquiry. The general result, as far as objections to vivisection on the score of cruelty are concerned, may be regarded as entirely satisfactory to those by whom it has been practiced."

Further detailed comment on the report seems unnecessary. Representing as it does the matured, judicial conclusions of a group of competent and unprejudiced men, its findings and recommendations may be regarded as wise and just. The tone both of the majority and of the minority is temperate and impartial. Whatever its legislative outcome, the publication of this report is of especial importance to those concerned in the defense of medical research both in England and in the United States, since it is a satisfactory and effective statement of the benefits that have already accrued to humanity from animal experimentation and a complete vindication of its practice.

#### LIMITATION OF THE FEEBLE-MINDED.

LAST December a memorial of far-reaching importance concerning the feeble-minded was handed to his Excellency the Governor of Massachusetts by a committee of the Charities and Correction Conference, Boston 1915. That its evidence is reliable and its facts well substantiated may be inferred from the known character of the members of this committee, who are to be regarded as men of sound judgment, whose disinterestedness and broad knowledge of this subject cannot be doubted. It is only natural that the opinions of such men should have weight with the Governor and that he should be interested in proposals so clearly for the benefit of all.

Although the problem of dealing effectively with the feeble-minded is undoubtedly of immense importance, it is probable that the average citizen has not given it a thought and that few physicians realize its scope. The average man trusts that evils which require his consideration will be brought to his notice and believes that the medical profession is ready to lend a hand and to provide information in its special sphere, the public health. Were the facts about the feeble-minded generally known to physicians they would long ago have demanded that steps be taken toward a prompt solution of this problem, and the demand would have been repeated if necessary until success was assured. Massachusetts may again prove herself progressive in the highest sense by being the first state openly to face this problem, and her physicians can show their loyalty by giving such a movement solid support.

There can be no question that feeble-mindedness constitutes a serious drain on the resources of all agencies for relief, whether public or private, and that this drain is increasing year by year through the propagation of the mentally defective who are at large. As an illustration of this cumulative burden, the cost to the state of the twenty children of three families has been conservatively estimated. The estimates, figured on the known cost per child per year at the public institution in which these children were cared for, are as follows: "A" family, \$30,705; "B" family, \$21,470; and "C" family, \$12,600; and the combined cost to the state of these twenty children of feeble-minded parents, \$64,775. Large though these figures are, they do not include the expense incurred by members of these families who have been discharged from the care of the State Board of Charity nor the present and future cost of those who are not in this community. When

compared with Dugdale's estimate of the cost to society of the Jukes family during seventy-five years, they do not appear excessive. Dugdale's estimate was nearly a million and a half.

These financial losses can be more or less accurately computed, but the moral and social damage is incalculable. The report speaks of the licentiousness of the feeble-minded, of how they debauch the youth and spread disease among them, of the demoralizing influence of their children in the public schools, and of their presence in considerable numbers in almshouses and reformatories.

No census of the feeble-minded is available, but it has been authoritatively stated that there are not less than 7,000 of them in Massachusetts and that only about 2,000 of these are confined in institutions. As specialists assert that "80% of feeble-mindedness is traceable to inheritance," to quote from the memorial, "it would seem the part of good sense for the state of Massachusetts to face the question of the care of its total feeble-minded population," "just as we have faced the care of our total insane population."

#### THE PUMP ROOM AT BATH.

For combined literary and social associations few places in England, outside of London, are equal to Bath, and in Bath, particularly to the famous Pump Room. Fronting across the sunny paved court before the Abbey, the broad corridors and porticoes of the Pump Room look out with untroubled serenity upon a city which, despite the installation of electric light and telephone, retains much of the Georgian elegance and dignity of its palmiest days. Bath was the first of the world's great watering-places, and its atmosphere is still that of the refined leisure of those who have nothing to do but care for their health. There are many places in Bath that merit attention, but none, unless it be the Abbey, more than the Pump Room. Here, notwithstanding the new shell of interior decoration, one may still walk among and drink of the various hot springs that bubble as inexhaustibly as in the days of the Cæsars. The shades of Beau Brummel and Beau Nash still linger among their shifting vapors, and one may readily recall not only them, but a hundred other characters, real and imaginary, from this favorite scene of British literary fiction. The warm, moist air induces a delightful sense of languor that prompts one to indefinite lingerings of imagination.

The Pump Room has its modern scientific

interests as well. The imagination never ceases to wonder at the inexhaustibility of its perennial fountains, and science tells us that their waters have real as well as suggestive therapeutic properties. A meeting of physicians was recently held in the Pump Room, and Sir William Ramsay, the eminent British chemist and physicist, gave some account of his investigations into the composition of the waters. Aside from the ordinary saline ingredients of mineral waters, the principal elements present in the Bath waters are helium and radium, which give the radio-activity that is their chief characteristic. Analysis showed that—

"In twenty-four hours the King's Well gave off 4,927 liters of gas containing in 10,000 parts 360 parts of carbon dioxide and 9,640 parts of nitrogen, etc., including 73.63 parts of argon, 23.34 of neon, and 2.97 of helium. In the water of the King's Well there was 0.1387 mgm. of radium per million liters. If the niton was represented by the weights of radium capable of forming the niton present in a million liters of water or gas the figures for the water of the King's Well, the Cross Bath and the Hetling Bath were respectively 1.73, 1.19 and 1.70, and for the gas from the King's Well 33.65."

It is probably the presence of these radioactive elements that give the waters their tonic and medicinal effect and value. After many hundred years science is beginning to appreciate the reason for that which has long been known empirically. To the literary and historic associations of the Pump Room are added now those of chemistry, which make its reminiscences none the less interesting. Yet after all, in spite of radio-activity, one cannot help wondering if the best of its therapeutic virtue be not in all that is implied by the motto over the Pump Room door, "Water is best."

#### MEDICAL NOTES.

DISCOVERY OF ANTARCTIC INSECTS. — Report from the Scott South Polar Expedition last week announces the discovery of two new species of insects. These are said to be the first land insects observed on the Antarctic continent.

BIRTH OF QUADRUPLTS. — Report from Guthrie, Okla., states that on April 3 Mrs. J. A. Thalsgraff of that city gave birth to male quadruplets. Their weights are not stated, but all are said to be alive and apparently vigorous.

PASSAGE OF THE HUGHES BILL BY THE SENATE. — Report from Washington, D. C., states that the Hughes Phosphorus Bill, whose passage by

the National House of Representatives was noted in last week's issue of the JOURNAL, has been also passed by the United States Senate.

**AMERICAN ASSOCIATION FOR CANCER RESEARCH.** — At the fifth annual meeting of the American Association for Cancer Research, held last week in Philadelphia, Dr. Ernest E. Tyzzer, of Boston, was elected president; Dr. Leo Loeb, of St. Louis, vice-president, and Dr. Simeon B. Wolbach, of Boston, secretary of the association for the ensuing year.

**LONDON DEATH-RATES IN 1911.** — Statistics recently published show that the total death-rate of London in 1911 was 15.8 per 1,000 living. Among the several districts and boroughs the highest annual rate was 21.1 in Shoreditch, one of the crowded eastern districts of the city, and the lowest was 10.8 in Hampstead, an open suburb on the north.

**VALUE OF "MEASLES FERN."** — A medical thesis of a century ago, recently discovered in the Dartmouth College Library, contains considerable account of the "measles fern," a species of fern having a rubeoloid eruption on the under surface of its leaves, and, therefore, supposed to be valuable in infusion as a cure for the disease. "There are other ferns," the author continues, "which have eruptions on the upper surface of their leaves, but these are of no value at all." The vegetable and herbal therapeutics of our ancestors were a strange mixture of superstition and empiricism.

**REMARKABLE HEREDITARY LONGEVITY.** — The following extract from a communication to the issue of the London *Spectator* for March 9 records an extraordinary instance of hereditary longevity.

"There has recently died in Caithness Miss Mary Sutherland, whose father was born in 1741. The case of the father of the late Earl of Leicester, who was born in 1756, has, I believe, been regarded as almost unique, but Miss Sutherland's father was born fifteen years before this friend of Nelson. Miss Sutherland's father was twice married, and, while she herself survived until February, 1912, she had three half-brothers who had joined the army before the year 1800, and who were all killed in Napoleon's wars before 1805. Miss Mary Sutherland died at the age of ninety-eight. She was the last of the family, having lost within the last few years a sister and brother aged ninety-three and ninety-one respectively."

**A CALL TO ANESTHETISTS.** — The New York Society of Anesthetists through its executive committee issues a call to all of the anesthetists in

the United States and Canada to meet in Atlantic City, N. J., at the coming session of the American Medical Association, June 4 to 7. This call is issued with the idea of forming a national organization either as a section of the American Medical Association, or as an independent body. The organization will take place June 4, at which time officers will be elected and committees appointed to determine the character of the organization. All anesthetists are urged to join their local, county and state medical associations and thus be eligible for membership in the American Medical Association. A Symposium on Anesthesia occurs on June 6, under the auspices of the Section of Pathology and Physiology. The headquarters will be at the Hotel Marlborough-Blenheim. All who expect to attend are urged to make reservations of their rooms at an early date. For further information, those interested should address the secretary, H. A. Sanders, M.D., 864 St. John's Place, Brooklyn, N. Y.

**NEW JERSEY STATE HOSPITAL.** — The recently published thirty-sixth annual report of the managers and officers of the State Hospital at Morris Plains, N. J., records the work of that institution for the year ending Oct. 31, 1911. During this period 2,672 insane patients were under treatment at the hospital, of whom 1,373 were men and 1,299 women. There were 554 new admissions, of which 22 were voluntary. One hundred and forty patients were discharged as recovered, and 188 died. Like many public hospitals for the insane, this institution is distressingly overcrowded. Several new buildings, a new kitchen and a cottage for male nurses are in process of construction, but even with these it will soon be imperative for the state of New Jersey to establish another insane hospital in addition to the two now in existence. The medical director's report contains a careful calculation of the ratio of increase of insanity. The warden's report describes the domestic details of the administration. There are also brief reports of the Hudson County Hospital, the Passaic County Almshouse, and the Essex County Hospital, accommodating respectively 675, 49 and 1,481 insane patients.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, April 9, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 28, scarlatina 26, typhoid fever 4, measles 142, smallpox 0, tuberculosis 70.



The death-rate of the reported deaths for the week ending April 9, 1912, was 17.67.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, April 6, 1912, was 236, against 290 the corresponding week of last year, showing a decrease of 54 deaths, and making the death-rate for the week, 17.09. Of this number 115 were males and 121 were females; 230 were white and 6 colored; 143 were born in the United States, 89 in foreign countries and 4 unknown; 48 were of American parentage, 160 of foreign parentage and 28 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 23 cases and 2 deaths; scarlatina, 29 cases and 1 death; typhoid fever, 8 cases and 0 deaths; measles, 150 cases and 2 deaths; tuberculosis, 68 cases and 17 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 38, whooping cough 4, heart disease 40, bronchitis 3. There were 13 deaths from violent causes. The number of children who died under one year was 33; the number under five years, 43. The number of persons who died over sixty years of age was 77. The deaths in hospitals and public institutions were 94.

**DENTAL REGISTRATION IN MASSACHUSETTS.** — Of the 77 candidates who took the examinations last month before the Massachusetts State Board of Registration in Dentistry, only 22 were passed.

**SMALLPOX IN CONNECTICUT.** — The smallpox epidemic in Connecticut, which was noted in the issue of the JOURNAL for March 28, has continued to spread. Forty-one cases of the disease have been reported from Naugatuck and fifteen from Willimantic. No deaths have as yet occurred.

**INSTRUCTIVE DISTRICT NURSING FUND.** — The endowment fund of the Boston Instructive District Nursing Association, for which an appeal was printed in last week's issue of the JOURNAL, has been increased by subscriptions to a total of \$63,000. The entire amount needed is \$100,000.

**HOSPITAL ELECTIONS AND APPOINTMENT.** — At a meeting last week of the trustees of the Forsyth Dental Infirmary, Dr. Harold De Witt Cross and Dr. Gurdon R. MacKay were elected members of the board.

Mr. M. M. Dimond, of Boston, was last week appointed trustee of the Massachusetts State Hospital for the Insane at Medfield.

**REPORT OF MT. SINAI HOSPITAL.** — The recently published tenth annual report of the Mt. Sinai Hospital, Boston, records the work of that institution for the calendar year 1911. During this period 20,056 consultations and treatments were given. Particular emphasis is laid on the great need of the erection of a permanent hospital building, in which may be treated the many patients needing house care who must now be referred to other institutions. Definite steps have been taken for the establishment of a Social Service Department, which it is hoped may be instituted in the very near future.

**PROJECTED HOUSEHOLD SERVICE OFFICE.** — A plan has been initiated by the Women's Municipal League of Boston to establish and maintain a household service office, from which may be obtained not only regularly trained nurses but also untrained attendants competent to perform domestic service at times of sickness in families of moderate means as well as to render such aid in caring for a patient as does not require special skill. Such an institution successfully administered should be of value to many households in providing at reasonable cost the kind of service which a trained nurse is often unwilling or unable to perform.

**SMALLPOX EPIDEMIC AT SALEM.** — During the past week there has been a considerable outbreak of smallpox at Salem, Mass. On April 3, thirteen cases of the disease were discovered in three houses in the French quarter of the city. These houses were all quarantined, the patients transported to the smallpox hospital at Salem Neck, and over 1,000 school children of the district were vaccinated. On April 4, seven more cases were found in the same section of the city, and about 1,500 employees of a local factory were inoculated. On April 5, seven more new cases were reported, 16 houses were quarantined, and all theaters, clubs and moving-picture shows were ordered closed. On April 10, the number of cases reported reached a total of 37. Two of these are said to be seriously sick. A free vaccination station has been established and over 9,000 persons have been inoculated. The latest previous epidemic of smallpox at Salem was in 1902, when there were 39 cases and 2 deaths.

**PUBLIC LECTURES AT THE HOMOEOPATHIC HOSPITAL.** — On Saturday evening of last week, April 6, Dr. J. Arnold Rockwell gave at the Evans Memorial Building the first of a series of free popular lectures on medical topics, arranged

by the directors of the Massachusetts Homœopathic Hospital. His topic was "What to Eat and Why." Subsequent lectures in this course are announced as follows:

April 13. "Body Building," Alonzo G. Howard, M.D.

April 18. "Home Nursing," Edna Blanche Averill, M.D.

April 20. "First Aid in Emergencies," Clarence Crane, M.D.

April 25. "Care of the Eyes," David W. Wells, M.D.

April 27. "Public Sources of Contagion," Nelson M. Wood, M.D.

May 2. "Care of the Skin," A. Howard Powers, M.D.

May 4. "How to be Sane and Steady," Frank C. Richardson, M.D.

May 9. "Care of the Teeth," Leroy M. S. Miner, M.D.

May 11. "Taking Cold," George B. Rice, M.D.

May 16. "Care and Feeding of Babies," J. Herbert Moore, M.D.

**MUNICIPAL NURSING EDUCATION CHARTS.** — The latter part of April, or early in May, there will be added to the charts for vocational guidance in the schools one that will direct the pupils' attention to opportunities in nursing. It is hardly too much to say that this should have a definite tendency to raise the educational standard of nurse applicants.

The training schools of the municipality of Boston that have been taken into consideration on the charts are chiefly those that are eligible for registration by the Board of Regents in New York. New York is the only state that has set a definite educational standard for its nursing schools. These schools also meet the requirements that enable their graduates to belong to the local and national nursing organizations and to enroll for membership in the Army, Navy and Red Cross corps. The charts furnish such data concerning the schools as preliminary requirements, expense, subjects taught, and length of courses. It is noticeable that most of the schools require a high school education or its equivalent for entrance, and emphasis is placed on the desirability of a collegiate preparation and a good basis of English, Latin and the sciences of chemistry, hygiene, physiology, anatomy and bacteriology.

With these charts for a guide it hardly seems possible that applicants from the Boston schools will come to the hospital as inadequately prepared as has often been the case in the past.

## NEW YORK.

**APPOINTMENT OF DR. PEARSON.** — Dr. Raymond A. Pearson, for the past four years Commissioner of Agriculture of the State of New York, who recently received the offer of the presidency of the Iowa State College of Agriculture, at Ames, has accepted that position, and before assuming its duties will visit some of the institutions of this kind in Europe.

**MOVEMENT TO URGE SCHOOL MEDICAL INSPECTION.** — At a conference held in New York last week between the State Charities Aid Association and the Anti-Tuberculosis Committee of the State Federation of Women's Clubs, it was voted to urge local boards of education throughout the state to employ school medical inspectors under the law which authorizes them to do so.

**LECTURES BY DR. PICK.** — On behalf of the Alumni Association of the College of Physicians and Surgeons, many of whose members have personally profited by his instruction, Columbia University has invited Dr. Ludwig Pick, professor of pathology in the University of Berlin, to deliver a course of lectures in the autumn.

**BILLS PASSED BY THE LEGISLATURE.** — Before its final adjournment, on March 29, the legislature passed a number of bills which had been recommended by the Factory Investigation Commission, a notice of whose report was given in the JOURNAL of March 14. These referred to sanitation, protection against fire and other safeguards for the life and health of factory workers.

**CONVICTION OF A CHRISTIAN SCIENCE HEALER.** — At his second trial for practicing medicine without a license, on March 30, Willis Cole, the Christian Science healer, at whose first trial for the offense the jury disagreed, was convicted and a fine was imposed. The trial was in the criminal branch of the New York Supreme Court, before Justice Seabury, and a motion for a new trial having been denied, counsel for the defense announced that the case would be carried to the Court of Appeals. As this is being made a test case, much interest is naturally felt in the ultimate result.

**NEW YORK ORTHOPEDIC DISPENSARY.** — The forty-fourth year book of the New York Orthopedic Dispensary and Hospital, recently published, records the work of that institution and of its

Country Branch and Industrial School for the year ending Sept. 30, 1911. During this period the total number of cases treated was 5,345, an increase of 349 cases, or 7%, over the preceding year. Thirty-eight thousand seven hundred and seventy-one visits were made in the out-patient department. The hospital is in great need of a modern, adequate building.

**CHANGES ON STATE LUNACY COMMISSION.** — Governor Dix has signed the Bayne bill, having to do with the State Commission in Lunacy. This measure provides for the changing of the name of this body to State Hospital Commission, and that, instead of a president specially appointed by the Governor, it shall have a chairman chosen by the members of the commission. Among the other provisions of the bill is the authorization of the commission to establish a bureau which shall maintain a careful inspection of the examination of immigrants at the Port of New York.

**APPOINTMENT OF DR. RUSSELL.** — Col. Joseph F. Scott, superintendent of State Prisons, has appointed Dr. John W. Russell superintendent of the State Hospital for the Criminal Insane at Matteawan, Dutchess County. Dr. Russell was first medical assistant at this institution, and since the last superintendent, Dr. James V. May, was appointed to the presidency of the State Commission in Lunacy, has been acting superintendent. He was graduated from the Albany Medical College in 1893, and for the past seventeen years has been connected with various hospitals for the insane.

**RIGHT TO EXAMINE HEALTH DEPARTMENT RECORDS.** — The Court of Appeals, sitting in Albany, has handed down a decision which upholds the right of the Bureau of Municipal Research of New York to examine certain records of the City Health Department. Access to these records having been denied by Commissioner Lederle, Dr. William H. Allen of this bureau applied to the Supreme Court for a writ of mandamus. This was refused, and an appeal to the Appellate Division of this court having also been dismissed, he finally carried the matter to the highest tribunal, the Court of Appeals.

**MODELS ILLUSTRATING OCCUPATION DISEASES.** — The American Museum of Safety has just received a gift of \$5,000, which is to be devoted to the purchase of the Sommerfield collection of wax models illustrating occupational diseases and industrial poisoning, which is now on exhibition

at the Berlin Museum of Safety and which has attracted the attention of investigators from all over Europe. It is stated that Dr. Sommerfield, who is an acknowledged authority in this department of scientific study, has become so much interested in the work of the American Institution that he is adding to the original collection a number of new models, which will be seen for the first time when the whole collection is placed on view, in the autumn, in the building of the American Museum of Safety on West 29th Street, New York.

**GENERAL AND INFANTILE MORTALITY.** — During the week ending March 23, there were 1,534 deaths and a death-rate of 15.47 per one thousand of the population in New York City, as against 1,706 deaths and a rate of 17.86 during the corresponding week of 1911. If this latter death-rate had prevailed during the past week there would have been 1,771 deaths, or an increase of 237 over the number actually reported. The number of deaths reported under five years of age diminished slightly, while the great saving of lives was at the ages over five years of age.

Those causes showing a considerable decrease were diarrheal diseases, influenza, bronchitis, lobar pneumonia, bronchopneumonia and pulmonary tuberculosis. The only one of the communicable diseases that showed an increase was measles. The chief factor in determining the low death-rate of the week was the lessened prevalence of influenza, with a consequent diminished mortality among the deaths of respiratory and circulatory diseases.

The reports of infant mortality in New York City to date show that there have been this year 199 fewer deaths of babies under one year of age than there were during the same period of 1911. The deaths from diarrheal diseases under one year of age up to March 23 amount to 340, as opposed to 486 for the same period of 1911.

The Health Department has recently opened a number of new infants' milk stations, which serve as centers for the reduction of the unnecessary infant mortality in the city.

Special attention is called to the fact that mothers nursing their own babies are urged to attend the stations for the purpose of obtaining milk for their own use.

**VETO OF THE WHEELER MILK BILL.** — Governor Dix, without waiting to give a public hearing upon it, has vetoed the Wheeler Milk Bill, which was passed by the Legislature shortly before its

adjournment. This bill provided for an amendment to one of the sections of Chapter IX of the agricultural law by which a person accused of selling impure milk was permitted to submit for inspection a "fair sample" of the milk which, according to his assertion, he was accustomed to supply, and if that sample were found to come up to the required standard, no penalty could be exacted. The opposition to the measure was spontaneous and widespread. Before its adoption Health Commissioner Lederle stated in a communication to the Corporation Counsel, who looks after legislation affecting the city, the grave objections to it, and within two days after it was passed the Governor had received nearly one hundred and fifty telegrams urging him to veto it. Among those who protested against the bill were William J. Allen, representing the Bureau of Municipal Research; Dr. Charles E. North, secretary of the National Committee on Milk Standards; Paul E. Taylor, secretary of the New York Milk Committee; J. A. Kingsbury, general agent of the New York Association for Improving the Condition of the Poor; Alfred T. White, president of the Brooklyn Bureau of Charities; H. O. Wood, president of the Brooklyn Children's Aid Society, and W. A. Stocking, Jr., professor of dairy industry in the New York State College of Agriculture at Cornell University. Governor Dix has been warmly congratulated on the stand he took in the matter, and the general sentiment in the better portion of the community was very well expressed by Dr. Ira S. Wile, of the children's department at the Vanderbilt Clinic, on learning of his action. "It is good to know," he said, "that the Governor recognized the vicious features of the Wheeler bill. It was really one whose evil effect would have been very far-reaching, for it affected the health of millions of persons and would have greatly increased infant mortality." That this bill should have been passed was certainly not very creditable to the Legislature.

**BURKE CONVALESCENT HOME.**—Dr. Frederick Brush, who as superintendent of the New York Post-Graduate Medical School and Hospital has made an unusual record in the past three years, during which the expansion of that institution made possible by its \$2,000,000 legacy has taken place under his direction, has now been appointed superintendent of the great Burke Convalescent Home, shortly to be established near White Plains, Westchester County. The erection and maintenance of the latter institution is provided for by a trust fund of \$4,500,000, given for

the purpose, during his life, by the late John M. Burke, of New York, and named by him, in memory of his mother, the Winifred Masterson Burke Relief Foundation. Mr. Burke, who died two years ago at the age of ninety-eight, had become impressed with the lack of provision in New York for the care of patients discharged from the hospitals before their complete restoration to health, and it was this which induced him to provide for the foundation. He had acquired a fortune of some \$10,000,000 in the South American trade and transactions in New York real estate, and soon after he announced the gift, in 1902, proceedings were instituted by a second cousin to have him declared incompetent. The fact of his soundness of mind was, however, fully established in the Appellate Division of the Supreme Court. He had a pronounced hobby against what he considered waste, leading a frugal life himself and looking with disfavor upon all unnecessary ornamentation both in private residences and public institutions. It is stated that he had planned for many years to leave his entire estate to St. Luke's Hospital, but when he saw the elaborate architecture of the new St. Luke's buildings he abruptly changed his mind. It is specified in the trust deed of his convalescent home that no money shall be spent on architectural decorations, and the plans for it have been drawn by McKim, Mead & White, the architects of the institution, in accordance with the donor's views. The land for the home, sixty acres in extent and selected with great care, was purchased some time ago by the trustees, and it is expected that building operations will be begun very soon.

**ESTIMATE FOR CORPORATE STOCK BUDGET.**—In the latest *Monthly Bulletin* of the City Health Department are given the estimates of the department for the corporate stock budget for the year beginning July 1, 1912. "Corporate stock" is the phrase applied in New York to long-term city bonds issued to cover the cost of permanent improvements and construction of buildings and public works, as distinguished from annual appropriations for current expenses and issues of short-term revenue bonds to supplement the annual budget. In 1910 the department received authorizations of corporate stock to the amount of \$255,000, and in 1911 to the amount of \$1,000,000, and the estimates for 1912 aggregate \$2,532,000. In them are included improvements at the Willard Parker and Reception Hospitals, Manhattan; Riverside Hospital for Consumptives, Bronx;

Kingston Avenue Hospital (for contagious diseases), Brooklyn, and the country tuberculosis sanatorium at Otisville. Among the pressing needs at the Willard Parker Hospital, it is stated, is an additional pavilion for scarlet fever patients. The present pavilion for the care of those suffering from this disease, which was erected about eight years ago, was originally intended for a maximum capacity of 300, but within a few months after it was opened it had over 500 patients, and almost every winter since then (including the one just closed) it has been greatly overcrowded. The attitude of the poorer classes toward the department hospitals has undergone such a radical change in recent years that, whereas formerly it was difficult to persuade poor people to allow their patients to be sent to them, now the only difficulty is in preventing gross overcrowding of these institutions. With a morbidity about the same as New York, London has a much lower scarlet fever death-rate, and this is attributed in great measure to the admirable hospital facilities there. In London over 90% of all cases of scarlet fever, as well as 85% of cases of diphtheria, occurring in the city are treated in the hospitals of the Metropolitan Asylum Board. The number of beds available at the present time for the treatment of contagious diseases in London is given at about 6,500, in addition to 3,000 beds held in reserve for cases of smallpox. Excluding the latter, this is about one bed for every 1,000 of the population. In New York, however, there are only about 1,400 beds available for this purpose; which, in proportion to the population, is less than one third of London's quota. At the Kingston Avenue Hospital it is hoped to secure, besides an administration building, a new pavilion for diphtheria patients and additional land on which to erect a tuberculosis pavilion. Because of the difficulty of access to their relatives and friends, it is regarded as unfair to the residents of Brooklyn and Queens to take cases of advanced tuberculosis, as now has to be done, to the Riverside Hospital on North Brother Island or the hospitals on Blackwell's Island. Up to the present time the development of the plant at Otisville, in Orange County, has been rather slow because it was an entirely new departure and has been regarded as somewhat experimental in nature. It was not entirely clear as to how useful this institution would prove, nor what type of structures would be best suited for its purposes; but the various phases of the problems presented have been gradually worked out and are now pretty well settled.

While most of the buildings in the early years were frame, of late, open air pavilions and other structures have been built of fireproof brick and concrete, and hereafter it is purposed to use this type of construction chiefly. The estimates for Otisville include the purchase of certain additional property which is believed to be necessary for the development of the plant, and particularly to provide a proper place for the care of the animals in the antitoxin stable and the laboratory. The antitoxin horses usually number about fifty, and a new fireproof stable for them is much needed. In addition to improvements and new buildings at institutions already established, the budget calls for the acquisition of a site and erection of buildings, at a cost of \$200,000, for a second tuberculosis sanatorium similar to that at Otisville, to be located at a point considerably nearer the city of New York.

## Current Literature.

### MEDICAL RECORD.

MARCH 30, 1912.

1. BARUCH, S. *The General Practitioner in the Development of Appendicitis Management.*
2. \*AGRAMONTE, A. *Notes upon a So-Called Parasite of Yellow Fever.*
3. WARD, F. F. *The "Karell Kur."*
4. \*DUNCAN, C. H. *Gonorrhea; Its Prevention and Cure by Autotherapy.*
5. WRIGHT, H. W. *Some Individualized Aspects of Preventive Medicine.*
6. \*CLARK, J. B. *When Cystitis is not Cystitis.*
7. LINCOLN, H. W. *Abortive Typhoid Fever with Report of a Case.*

2. Agramonte reviews an article on "The Etiology of Yellow Fever," by Dr. Harold Seidelin, which appeared in November, 1911, in a bulletin of the Liverpool School of Tropical Medicine, and states the reasons for his disbelief that the so-called parasite described by Seidelin is the real cause of the disease.

4. Duncan seriously proposes the treatment of gonorrhea by the oral administration of autogenous gonorrheal pus. [It does not seem that the arguments advanced in favor of this procedure are convincing. It might be questioned whether pulmonary tuberculosis might not equally well be treated by the patient's swallowing his own sputum. Analogous methods of treatment might be applied to typhoid fever and Asiatic cholera.]

6. Clark points out that in many cases diagnosed as cystitis, the vesical symptoms are not primary, but secondary to other and unrecognized disease processes in the genito-urinary tract. [R. M. G.]

### NEW YORK MEDICAL JOURNAL.

MARCH 30, 1912.

1. MORTON, W. J. *Some Problems in the Chemotherapy of Cancer.*
2. FRANK, R. T. *Recent Views on Inflammations of the Endometrium and "Endometritis."*
3. MASSEY, G. B. *Ionic Surgery in Cancer of the Rectum; a Review of Fifteen Cases.*

4. HOOVER, F. P. *Traumatism of the Eyeball.*
5. BROWN, S. H. *The Social Worker as a Factor in Solving the Dispensary Problem.*
6. MCMORROW, F. *Post-graduate Work in Vienna and Budapest.*
7. SICHERMAN, H. *A Plea for Use of the Metric System in Prescription Writing.*
8. HUEY, A. J. *The Duty of One Physician to Another.*
9. DELANTY-BARBOUR, I. *Sex Hygiene in Relation to Eugenics.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.  
MARCH 30, 1912.

1. GORGAS, W. C. *Sanitation of Panama.*
2. FRANZ, J. S. *The Present Status of Psychology in Medical Education and Practice.*
3. MEYER, A. *The Value of Psychology in Psychiatry.*
4. SOUTHARD, E. E. *Psychopathology and Neuropathology: The Problems of Teaching and Research Contrasted.*
5. WATSON, J. D. *Content of a Course in Psychology for Medical Students.*
6. PRINCE, M. *The New Psychology and Therapeutics.*
7. HATCHER, R. G. *The Effects on the Heart of "Soluble Digiloxin, Cloetta."*
8. CRIGLER, L. W. *Trachoma: Its Etiology and Treatment.*
9. YEOMANS, F. C. *A New Pneumo-Electric Proctoscope and Sigmoidoscope.*
10. BRENNER, A. G. *Gastro-Enterostomy. Technic of the Operation with the Use of a New Instrument.*
11. IRONS, E. E. *A Cutaneous Reaction in Gonococcal Infections.*
12. SHRAFF, P. A. *Observations on the Oxyuris Vermicularis or Common Seat Worm.*
13. THOMPSON, H. H. *A Milk-Borne Typhoid Epidemic.*
14. GRIFFIN, F. W. *The Value of Cystoscopy in Surgical Diseases of the Kidney.*
15. BODENSTAB, W. H. *Acute Lymphatic Leukemia. Report of Three Cases.*
16. WHITNEY, J. L. *The Phenolsulphonaphthalein Test of Renal Sufficiency.*

ARCHIVES OF INTERNAL MEDICINE.

FEBRUARY, 1912.

1. \*BREM, W. V. *Studies of Malaria in Panama. The Etiology of the Erythrolytic Hemoglobinuric Type of Blackwater Fever. A Preliminary Report.*
2. \*BERGHAUSEN, O. *The Role of Acidosis of the Tissues as a Factor in the Production of an Attack in Paroxysmal Hemoglobinuria.*
3. CHRISTIAN, H. A. *Observations on the Fluid Contents of a Cyst Occupying the Epigastric Region of the Abdomen.*
4. HOWELL, A. A. *A New Method of Determining Venous Blood Pressure.*
5. \*OPHÜLS, W. *Subacute and Chronic Nephritis as Found in One Thousand Unselected Necropsies.*
6. \*CONNER, L. A., and STILLMAN, R. G. *A Pneumographic Study of Respiratory Irregularities in Meningitis.*
7. KOLMER, J. A. *A Study of Streptococcus Antibodies in Scarlet Fever with Special Reference to Complement Fixation Reactions.*
8. ROSENBLUM, J. *Oseco-Albumoid as a Possible Precursor of Bence-Jones Protein. An Experimental Study.*
9. ROSENBLUM, J. *Spontaneously Precipitated Bence-Jones Protein in Urine.*
10. DUKE, W. W. *A Simple Instrument for Determining the Coagulation Time of the Blood.*
11. \*KAPLAN, D. M., and CASAMAJOR, L. *The Neuroserological Findings in Tabes, General Paresis, Cerebrospinal Syphilis and Other Nervous and Mental Diseases.*

1. Brem concludes from his studies that pernicious malaria with hemoglobinuria and the transition cases between it and erythrolytic hemoglobinuria are due

directly to an hemolysin produced by the malarial parasite. The æstivo-autumnal organism is nearly always the one concerned.

2. Berghausen reports a case of paroxysmal hemoglobinuria in which he made an elaborate study of the blood with the object of discovering the cause of hemolysis. He believes that local changes in the tissues are necessary before a state of hemoglobinemia can be produced. In view of the fact that cold, trauma and passive congestion may all lead to an attack, and since the three conditions are associated with the production of an excessive acidity of the tissues, it is not unreasonable to suppose that the organic acids thus formed play some direct part in the production of the attacks. In the presence of the proper salt concentration, the blood corpuscles are protected against the hemolytic action of any organic acids. This naturally suggests the giving of neutral salts as a therapeutic agent in these cases.

5. Ophüls made an exhaustive study of subacute and chronic nephritis in one thousand autopsies. The so-called primary or genuinely contracted kidney, he says, is the result of arteriosclerosis in the terminal arterioles of this organ and is closely associated with general arteriosclerosis. The rôle of the kidney lesions in the production of hypertension in these cases has been considerably exaggerated. Subacute and chronic glomerulonephritis are in the majority of cases due to chronic sepsis. The lesions in this form are practically always hemorrhagic, and in amyloid kidney frequently so.

6. Conner and Stillman made graphic records of the breathing in meningitis. They found three types. Cheyne-Stokes breathing was seen in 53% of the cases. Biot's breathing was observed in 27%. This type is practically pathognomonic of meningitis. The third group of respiratory irregularities the writers designate as the undulatory type. This form was seen at some time in the course of almost every case. It is also found often in other diseases and is therefore of little value in diagnosis.

11. Kaplan and Casamajor draw a few interesting conclusions from some neuroserological studies. The hyperlymphocytic and positive Wassermann types of tabes are the ideal forms of this disease for successful treatment. The diminution of polynuclear cells is a favorable prognostic sign, whether the meningitis is luetic or non-luetic. The reduction of Fehling's solution by the cerebrospinal fluid speaks strongly for the tuberculous nature of the meningitis. [L. D. C.]

SURGERY, GYNECOLOGY AND OBSTETRICS.

MARCH, 1912.

1. \*SAMPSON, J. A. *The Blood Supply of Uterine Myomata Based on the Study of One Hundred Injected Uteri Containing These Tumors.*
2. \*NEUHOF, H. *Non-Suppurative Subphrenic Peritonitis Complicating Appendicitis.*
3. CARREL, A. *Technic and Remote Results of Vascular Anastomoses.*
4. REYNOLDS, E. *The Ultimate Results of the Conservative Surgery of the Ovaries.*
5. BRYAN, R. C. *Cancer of the Prostate.*
6. \*CRAGIN, E. B. *The Treatment of Ectopic Gestation.*
7. REICHMANN, M. *Furstenan's Roentgensterometry; an Exact Method of Locating Foreign Bodies.*
8. HOSMER, C. S. *Persistent Cloaca. Technic of Cure.*
9. ERDMAN, J. F. *Cardiospasm: Its General Consideration.*

1. Sampson's article on the blood supply of uterine myomata is interesting and copiously illustrated by a series of very remarkable plates.

2. Neuhoof's article, well illustrated by typical cases, sets forth clearly the rather rare condition of non-suppurative subphrenic peritonitis following appendicitis. He is unable to explain the noticeably beneficial results quickly following aspiration.

6. Cragin sums up the discussion which has taken place in the profession during the past few years, on when to operate in ruptured extra-uterine pregnancy, as follows, and in a very logical manner: "If the patient is seen at the time of the tubal rupture or abortion, operate and check the hemorrhage as soon as careful preparation can be made, unless the patient is in such extreme shock that

the operation in itself would probably prove fatal. In this case, watch the patient carefully, noting the condition of the pulse at short intervals to see if the patient is improving or losing ground. If losing ground, operate at once and rapidly, seeking to check the hemorrhage with as little manipulation as possible." This seems a sound rule. [E. H. R.]

THE LANCET.  
MARCH 9, 1912.

1. \*GARROD, A. E. *Lettsomian Lectures on Glycosuria. Lecture III.*
2. MORRIS, H. *On Malignant Disease of the Testicles, and the Operation for Removal of the Ilio-lumbar Lymph Glands when Secondly Affected, or as a Precautionary Measure at the Time of Excision of the Organ Primarily Diseased.*
3. \*MCINTOSH, J., FILDES, P., AND DEARDEN, H. *The Causation and Prevention of Certain Toxic Symptoms Following the Administration of Salvarsan.*
4. TROTTER, W. *The Operative Treatment of Graves' Disease.*
5. KELSON, W. H. *"Aching Throat."*
6. GRÜNBAUM, H. G., AND GRÜNBAUM, A. S. *Further Experiments on the Treatment of Inoculated Rat Sarcoma and Observations on Certain Accompanying Blood Changes.*
7. CONNER, E. M. *The Treatment of Talipes Equinovarus.*
8. RAW, N. *The Value of Pneumococcus Vaccine in the Treatment of Pneumonia.*
9. LISTER, T. D. *The Problem of After-Care of Sanatorium Patients.*
10. BUXTON, D. W. *Crawford Williamson Long, the Pioneer of Anesthesia.*

1. Garrod, in his third and last Lettsomian Lecture, discusses the relationship of glycosuria to the thyroid gland, how this gland affects carbohydrate metabolism and the relation of myxedema to the excretion of glucose; he then takes up glycosuria and the pituitary body, glycosuria and the adrenals, its relation to pregnancy, and last, glycosuria in which there is excretion of sugar in the urine not dependent on any excess in the blood.

3. The authors discuss in this article those toxic symptoms such as fever, headache, vomiting, which often occur after an intravenous injection of salvarsan. They found (1) that the fever and other symptoms were more marked in secondary and tertiary syphilis than in primary or latent syphilis; (2) the symptoms occurred in non-syphilitic individuals, but not to any such extent; and (3) the symptoms also occurred after intramuscular injection, although also to less extent. They also found that every intravenous injection of normal salt solution was followed by these symptoms more or less severe and indistinguishable from those occurring after salvarsan; that they occurred practically as frequently after injection of Ringer's solution as after saline, and that alteration of the concentration of the salt solution made no difference. They proceeded along these lines to experiment on rabbits and came to the following conclusions: (1) The injection, of sterile laboratory saline solution is toxic; (2) the injection of microbe-free saline solution is non-toxic; (3) the addition of dead bacteria isolated from the laboratory saline before sterilization to the non-toxic microbe-free saline renders the latter toxic; (4) this effect is due to the microbes themselves and not to endotoxins derived from them; (5) the toxic effect is not due to any one variety of microbe; (6) no increased toxicity or anaphylaxis was found to follow a second injection of the microbes. Applied to the use of salvarsan they found two distinct factors: one, the dead bacteria in the saline solution, and second, the dead bodies of the spirochetes killed by the salvarsan. The former symptoms at least can be relieved by the use of bacterium-free saline by employing only distilled water freshly prepared. [J. B. H.]

BRITISH MEDICAL JOURNAL.

MARCH 9, 1912.

1. REYNOLDS, E. S. *An Address on the Practice of Medicine as a Fine Art.*

2. \*EMANUEL, J. G. *A Common Form of Heart Disease (Auricular Fibrillation).*
3. \*COGHLAN, E. F. *The Management of Cardiac Failure in Diphtheria.*
4. VOIGT, J. C. *Suprarenal Gland Extract in Cardiac Dyspnea and Cardiac Dropsy.*
5. COLEMAN, E. H. *A Case of Anginal Spasm of Exceptional Duration.*
6. \*CANDLER, J. P., AND MANN, S. A. *Reliability of the Results Obtained by the Wassermann Test on Serums and Cerebrospinal Fluids Obtained Post Mortem.*
7. STIMMS, J. L. M. *An Accurate Method of Estimating the Vibration Sense.*
8. RAW, R. *The Curative Value of Leishmania Culture "Vaccine" in Oriental Sore.*
9. HOPE, C. W. M. *A Method of Enucleation of the Tonsils.*
10. ROCKLIFFE, W. C. *The Blind and the Census of 1911, together with Statistics as to the Cause of Blindness.*
11. MACGREGOR, R. F. D. *The Casualties in Tibet.*

2. Emanuel in a short article discusses auricular fibrillation, its recognition, the character of the pulse, murmurs, symptoms and etiology. He divides patients into two classes as regards etiology, rheumatic and non-rheumatic. In treatment he especially recommends digitalis and its allies. He gives a few illustrative cases.

3. Coghlan in a short but practical article describes that form of cardiac failure which often occurs in diphtheria, and its symptoms and treatment. He gives four illustrative cases.

6. Candler and Mann show by their investigations that post-mortem changes may so affect the blood and cerebrospinal fluid as to negative the reliability of results of Wassermann tests, changing a negative to a positive, and vice versa. They recommend, therefore, removing the blood and cerebrospinal fluid for examination as soon as possible after death. [J. B. H.]

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT. No. 9.

FEB. 29, 1912.

1. KRAUS, F. *Movements of the Esophagus in Normal and Pathologic Conditions.*
2. KÜMMELE, H. *Indications for Surgical and Internal Treatment of Gastric Disease and the End Results of Operation.*
3. HINZ, *Essay on Surgery of the Pancreas.*
4. \*SCHUMBURG. *Bactericidal Power of Alcohol.*
5. \*REIZLAFF. *Treatment of Gout with Atophan.*
6. \*BEYERHAUS, G. *Clinical Experiences with Codional.*
7. BERING, F. *Joint Phenomena in Acquired Syphilis.*
8. FISCHER, W. *General Congenital Anasarca.*
9. SENATOR, M. *Etiological Relations between the Nose and Joint Rheumatism.*
10. FISCHER, F. *Method for Healing Large Skin Defects on the Extremities.*
11. ZABEL, E. *The Course of Disease in Syphilis.*
12. NAKANO, H. *A Rapid Method for Staining Spirochetes in Tissues.*

4. Schumburg calls attention of the profession to the value of absolute alcohol and also denatured alcohol as a means of disinfection. He finds both of these varieties more efficacious than the diluted forms. He thinks that alcohol is as effective as sublimate solution at 1:1000. He hopes that the use of absolute alcohol will receive more attention as a germicide.

5. Reizlaff gives the chemical characteristic acid formula of atophan and then a description of its best method of use in gout. He thinks that it is by far the best remedy we have in acute attacks of gout. The method of use is to give 2 to 3 gm. daily over a period of several, usually four to five, days. The symptoms rapidly disappear under this treatment. Also as a prophylactic measure a dose of 2 to 3 gm. for three days occasionally will cause a marked increase in uric acid excretion.

6. Beyerhaus recommends the use of codional in cases of sleeplessness from cough or moderate pain. He finds it an extremely useful hypnotic. In the more severe cases of sleeplessness associated with marked nervous phenomena it is not so efficacious. [C. F., JR.]



## WIENER KLINISCHE WOCHENSCHRIFT. No. 12.

MARCH 21, 1912.

1. FALTA, W., KRISER and ZERNER, L. *The Treatment of Leukemia with Thorium X.*
2. V. KNAFFL-LENZ, E. *The Effects of Radium Emanation. (Preliminary Communication.)*
3. MILOSLAVICH, E. *The Pathogenesis of Appendicitis.*
4. BLUM, V. *Topical Renal Diagnosis on the Basis of the Functional Test.*
5. v. SCHRÖTTER, H. *Bronchoscopy for Foreign Bodies.*
6. \*GOBIET, J. *A Case of Incarcerated Hernia of Treitz Cured by Operation.*
7. NOBL, G. *Armauer Hansen.*

6. Gobiet reports a successfully operated case of hernia of Treitz. He believes that in this condition the incarceration can generally be reduced by simple traction on the gut. If necessary, he advocates ligating the inferior mesenteric vein, whether already thrombosed or not. The only sure radical cure is to split the hernial sac and remove its anterior wall, if the vein is thrombosed; and if the vein is intact, to sew the opened sac to the abdominal wound and drain it. [R. M. G.]

## ARCHIV FÜR KLINISCHE CHIRURGIE.

VOL. 97. PART 2.

11. KAUSCH, W. *Anastomosis between the Biliary Passages and the Intestines. (To be concluded.)*
12. \*KEHR, H. *When shall One, after Removal of the Gall Bladder in a Case in which no Stone can be Palpated in the Common Duct, Incise and Drain this Duct, and When Not?*
13. BRÜNING, F. *Injuries of the Semilunar Cartilages and Their Treatment.*
14. KLEMM, P. *Osteomyelitis of the Joints, Especially of the Hip.*
15. DENK, W. *The Closure of Defects of the Dura by Means of Free Transplantation of Fascia.*
16. \*LENDORF, A. *What Happens in Suprapubic Prostatectomy? Whence Comes the So-Called Hypertrophy of the Prostate?*
17. TELEKY, D. *Teratoid Tumor of the Female Bladder.*
18. EKEHORN, G. *Operative Treatment of Important Urethral Defects.*
19. EKEHORN, G. *Operative Technic in Operations upon the Kidney.*

12. Kehr discusses his last 160 operations for gallstone. He has practically abandoned cholecystostomy; he prefers removal of the gall bladder. The matter of opening and draining the common duct is to be decided upon the evidence found at operation. Indications for drainage are a history of fever, jaundice, passage of stone, changes in the pancreas, cirrhosis of the liver, thickening of the duct, conditions in the gall bladder and cystic duct which point to the likelihood of the recent passage of a stone. In his 160 laparotomies for gallstone, Kehr removed the gall bladder in 130; in 58 of these he also drained the common duct. His mortality was 18%, which he contrasts with the 2.75% mortality of William Mayo, and justifies by the suggestion that we do not yet know the late results of Mayo's cases!

16. Lendorf, from anatomical studies of the prostate at different periods of life, shows that the hypertrophy of later years is due to a hyperplasia of bits of accessory prostatic tissue which are directly beneath the mucosa of the prostatic urethra, and within the vesical sphincter. The true prostate is pushed outwards by the growth of this tissue, and when the so-called hypertrophical prostate is removed by the suprapubic route, the sphincter and true prostate are left intact. [G. G. S.]

## REVUE DE CHIRURGIE.

MARCH, 1912.

1. \*BANZET, S. *Indications for the Late Extraction of Intracerebral Projectiles.*
2. MOCQUOT, P., and HOUDARD, L. *The Topographic Value of the Veins of the Pyloric Region.*
3. \*QUÉNU, E. *Critical Study of Fractures of the Ankle. (Continuation.)*
4. \*DESTOT. *Concerning Fractures of the Ankle.*

5. \*PASCALIS, G. *Operative Indications and Surgical Treatment of Tumors of the Cerebello-Pontine Angle. (Conclusion.)*
6. MARQUIS, E. *The Exclusive Disinfection of the Hands by Alcohol, without Previous Washing or Use of Soap.*

1. On the basis of a case which he reports, Banzet makes an extensive contribution to the study of traumatic word-deafness as a sign in the localization of intracerebral projectiles.

3. In this paper, which, like others of his series, is fully illustrated with excellent outline diagrams, Quénu discusses particularly diastasis of the inferior tibio-peroneal articulation.

4. Destot replies to some of Quénu's criticisms of his work on fractures of the ankle, and in turn criticises the latter for his scientific, as opposed to practical, method of dealing with the subject.

5. In conclusion of his exhaustive study of tumors of the cerebello-pontine angle, Pascalis collects 113 cases from the literature and presents a bibliography of sixty-seven titles. He believes that in the great majority of cases such tumors are encapsulated, enucleable and benign or of slight malignancy, but that they evolve rapidly to death with a lamentable symptomatic picture and should, therefore, be removed by operation. They may be diagnosed especially by the association of the syndrome of cranio-cerebellar-hypertension and symptoms of compression of nerves of the base. Indications for simple decompressive trephining are restricted to cases in precarious general condition, to multiple tumors, and to metastasis of a visceral cancer of rapid evolution. In all other cases recourse should be had to the radical operation. If the localization is imperfect, Cushing's operation should be done. If the site has been definitely determined, only one cerebellar fossa should be opened. The condition of the blood pressure will determine whether the operation shall be done in one or in two stages. The anesthesia should be with chloroform and oxygen by an expert assistant. The flap should be square, the bone sacrificed, and the sinuses preserved. The tumor should be raised as much as possible by instruments or by aspiration, and the cerebellum preserved. Drainage will be determined by hemostasis. Careful preparation and post-operative care are of the first importance. Decompression should be done by a simple vertical incision over the middle of a cerebellar fossa without opening the dura mater. Such a procedure will be determined by the evolution of the symptoms. [R. M. G.]

## IL POLICLINICO.

FEBRUARY, 1912.

## MEDICAL SECTION.

1. MARCHETTI, G., and CAPEZZUOLI, C. *A Contribution to the Study of the Mechanism of the Action of Oxygen Inhalations.*
2. CIUFFINI, P. *Primary Cancer of the Lung.*
3. OSTI, A. *A Contribution to the Study of the Action of Fibrinolysin in Interstitial Pneumonia and of the Crisis in Pneumonia.*
4. FULCI, F. *The Lobulated Syphilitic Kidney.*

MARCH, 1912.

## SURGICAL SECTION.

1. \*LEOTTA, N. *Experimental Researches on the Results of Transvesical Prostatectomy, and on the Function of the Prostate. (Conclusion.)*
2. \*BARNABO, V. *Resection of the Testicle.*
3. POGGIOLINI, A. *The Influence of Unilateral Nephrectomy on the Opsonic Index with Regard to Pyogenic Germs.*

1. From his completed series of experimental total prostatectomies on dogs, Leotta concludes that the prostate is primarily an ejaculatory organ, elaborating secondarily an external secretion which fluidifies the sperm and protects and prolongs the life of the spermatozoa, and an internal secretion which stimulates spermatogenesis. In dogs and other animals which have no seminal vesicles the prostate is large and its ejaculatory function is more marked than in man. Totally prostatectomized dogs were found to be aspermic, though not azoöpermic. They

retained normal desire, erection and power of coitus, but without ejaculation, though living spermatozoa were found in the urine. This he believes due to the loss of the verumontanum and of the smooth and striated sphincter muscles of the urethra.

2. From a series of nine experimental conservative operations with the thermocautery on the testicles of rabbits the author concludes that in such procedures there occurs in the first place an intense inflammatory reaction invading all the testicular stroma, and disorganization and necrosis of the cellular elements of the seminal tubules; in the second place sclerosis and atrophy on the part of the remaining gland, with proliferation of the sustaining fibrous connective tissue and with transformation of the seminal tubules into simple epithelial tubules. These results he believes are with much probability to be attributed to the operative technic, as a reaction to the intense cauterization. The loss of substance is replaced by young connective tissue due for the most part to invasion, between the margins of the wound, of the connective tissue of the adjacent albuginea. If one testicle is untouched, there occur in it a moderate hyperplasia and temporary hyperfunction. In animals subjected to resection of one testicle and castration of the other, the hypophysis gradually hypertrophies in a notable manner; still more so in those subjected to bilateral testicular resection; but is not modified in those subjected to the resection of a single testicle, the other remaining intact. The suprarenal capsules, though not notably changing their histologic structure, augment their secretory activity in animals subjected to bilateral testicular resection; they augment it somewhat in those operated by testicular resection and heterocastration; they do not augment it at all in those operated by monotesticular resection. These experimental data concur with those obtained by castration, demonstrating that in the operated testicle there occurs a deficiency of internal as well as of external secretion. This internal secretion the author believes is produced by the interstitial cells of the testicle. [R. M. G.]

### Obituary.

JOHN HERR MUSSER, M.D.

DR. JOHN HERR MUSSER, who died of heart disease on April 3, at Philadelphia, was born in Strassburg, Lancaster County, Pa., on June 22, 1856, the son, grandson and great-grandson of physicians. After obtaining his preliminary education at the Pennsylvania State Normal School, he received the degree of M.D. in 1877 from the University of Pennsylvania. Since that time he had practiced his profession in Philadelphia. From 1879 to 1882 he was medical register of the University Hospital, and from 1881 to 1887 chief of its medical dispensary. He was successively instructor, assistant professor and professor of clinical medicine at the University of Pennsylvania. From 1883 to 1887 he was pathologist to the Presbyterian Hospital, Philadelphia, and since 1887 had been physician to that institution. He was also visiting physician to the Pennsylvania and University hospitals in that city, and consulting physician to several other institutions. He was a Fellow of the Philadelphia College of Physicians and of the Philadelphia County Medical Society, of which he was president in 1899. From 1893 to 1897 he was president of the Philadelphia Pathological Society, in 1897 of the Philadelphia Medical Club, and in 1904 of the American Medical Association. He was also a member of the Pennsylvania State Medical Society, of the Association of American Physicians, of the American Climatological Society,

and of the Philadelphia Neurological Society. He was author of a well-known work on "Medical Diagnosis," contributor to several standard handbooks and systems of medicine, and recently, with the late Dr. A. O. J. Kelly, edited a large work on "Practical Treatment."

Dr. Musser was a physician of international repute, an authority and expert in diagnosis, a man of reserved disposition and of a highly trained judicial mind, a practitioner of great acumen and distinction. His untimely death is a grave loss to the American medical profession.

### Miscellany.

#### AMERICAN SCHOOL HYGIENE ASSOCIATION.

THE sixth annual congress of the American School Hygiene Association, at the Harvard Medical School in Boston, which was announced in the issue of the JOURNAL for March 21, was attended by about fifty delegates. The opening address was made by Mr. David Snedden, state commissioner of education, on "The Problems of Health Supervision in the Schools of Massachusetts." At the morning session of the first day Joseph Lee spoke on "School Hygiene from the School Committee's Point of View." Other topics and speakers were as follows: "Medical Inspection and the Practice of the Physician and the Dentist," Thomas A. Storey, of New York; "The School Nurse as a Link in the Chain of Preventive Medicine," Miss Margaret E. Carley, supervisor of nurses, Boston; "Health Problems Encountered in Home Visits to School Children," Alfred E. Shipley, of New York; "The Effect of the Doctrine of Physiological Age upon School Administration," C. Ward Crampton, of New York.

At the afternoon session, "The Deaf Child" was considered by Helen MacMurchy, of Toronto; "A Study in Retardation," by L. N. Hines, superintendent of schools, Crawfordsville, Ind.; "Suggestion in School Hygiene," by William H. Burnham, of Clark University; "A Report of Dietary Studies Made at the Franklin Park Hospital for Tuberculous Children," by Dr. Edwin A. Locke, Boston; "The Hygiene and Sanitation of Summer Camps for Boys," by George L. Meylan, Columbia University; "Lesions and Abnormalities Found in an Examination of Two Thousand Supposedly Normal Adult Young Women," Myrtelle M. Canavan, Boston State Hospital.

At the evening session there were addresses on school lighting, hygiene of the eye and trachoma.

At the sessions of the second day, Dr. George S. C. Badger, of Boston, spoke on "Malnutrition of School Children"; Dr. Dudley A. Sargent, of Cambridge, on "Physical Training"; and Dr. William H. Potter, of the Harvard Dental School, on "The Care of the Teeth of School Children." The closing session in the evening was devoted to consideration of the report of the committee on heating and ventilation of schoolrooms, which was

presented by its chairman, Dr. Luther Halsey Gulick, director of the department of child hygiene of the Russell Sage Foundation, New York City.

Others who read papers during the day and evening were Frank Irving Cooper, Prof. Thomas Wood of Columbia University, Prof. David Spence Hill of Tulane University of Louisiana, Prof. Milton J. Rosenau of Harvard Medical School, Prof. Maszyk P. Ravanel of the University of Wisconsin, J. N. Hurty, State Health Commissioner of Indiana; Dr. Eugene A. Crockett of Boston, Dr. William Palmer Lucas, Prof. Robert W. Lovett, Dr. Samuel McClintock of Philadelphia, Dr. Charles J. White, Dr. G. H. Fitz and Dr. Henry M. Smith of Brooklyn.

### Correspondence.

#### AN OMISSION EXPLAINED.

1418 EUTAW PLACE, BALTIMORE,  
April 4, 1912.

*Mr. Editor:* In the editing of my "Cyclopedia of American Medical Biography," just issued, there were many delays owing to the tardiness of friends or relatives sending in data.

While waiting for a biography of the eminent Boston doctor, Henry I. Bowditch, the biographies under the earlier letters went through the press and Dr. Bowditch was left out. I have, however, already prepared for a second edition, in which both portrait and life will appear.

Yours very truly,

HOWARD A. KELLY, M.D.

### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, MARCH 30, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	9	2
Chicago.....	708	205	Waltham.....	7	1
Philadelphia.....	—	—	Brookline.....	5	—
St. Louis.....	—	—	Chicopee.....	8	5
Baltimore.....	—	—	Gloucester.....	—	—
Cleveland.....	—	—	Medford.....	9	3
Buffalo.....	—	—	North Adams.....	7	1
Pittsburg.....	—	—	Northampton.....	6	0
Cincinnati.....	—	—	Beverly.....	9	3
Milwaukee.....	—	—	Ravens.....	4	—
Washington.....	—	—	Leominster.....	2	—
Providence.....	—	—	Attleboro.....	5	1
Boston.....	237	88	Westfield.....	11	5
Worcester.....	63	15	Rehoboth.....	1	—
Fall River.....	24	10	Melrose.....	4	—
Lowell.....	45	14	Woburn.....	3	1
Cambridge.....	26	5	Newburyport.....	4	—
New Bedford.....	33	18	Gardner.....	5	2
Lynn.....	29	9	Marlboro.....	3	—
Springfield.....	25	8	Clinton.....	4	1
Lawrence.....	28	12	Milford.....	3	—
Somerville.....	28	3	Adams.....	1	0
Holyoke.....	19	7	Framingham.....	4	0
Brookton.....	24	5	Weymouth.....	—	—
Malden.....	10	1	Watertown.....	1	0
Haverhill.....	17	5	Southbridge.....	6	2
Salem.....	11	3	Plymouth.....	3	2
Newton.....	14	1	Webster.....	2	1
Fitchburg.....	13	3	Methuen.....	3	2
Taunton.....	23	9	Wakefield.....	1	—
Everett.....	8	4	Arlington.....	2	0
Quincy.....	9	1	Greenfield.....	2	—
Chelsea.....	17	5	Winthrop.....	2	—

### APPOINTMENTS.

DR. THOMAS MCCRAE, of the Johns Hopkins Medical School, Baltimore, has been appointed professor of medicine at the Jefferson Medical College, Philadelphia.

DR. CHANNING FROTHINGHAM, JR., of Boston, has been appointed physician to the new Peter Bent Brigham Hospital in this city. DR. FRANCIS W. PEABODY, of the Rockefeller Institute for Medical Research, New York, has been appointed resident physician, and DR. REGINALD FITZ, of Boston, senior house officer, of the Brigham Hospital.

### EXAMINATION.

ON May 17, 1912, in Chicago, the Illinois Civil Service Commission will hold an examination for the position of Factory Physician in the state service. This examination is open to men and women who are citizens of the United States and over twenty-one years of age. The salary is \$125 per month and necessary travelling expenses. The scope and weights of the examination are: Training and experience, 3; special subject, comprising medicine, occupational diseases, pediatrics, gynecology and its relation to factory work, 7.

### SOCIETY NOTICE.

THERE will be a meeting of the New England Hospital Medical Society, in the Kensington Building, Room 308, April 18, at 7.20 P.M. Dr. May Salona Holmes, Superintendent Isolation Hospital, Worcester, Mass., will give a paper on "Contact Infection and the Control of Contagious Diseases." Light refreshments after the meeting.

MARGARET L. NOYES,  
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### RECENT DEATHS.

DR. WALTER A. RUSSELL, who died on April 3 at Everett, Mass., was a native of Providence, R. I. He graduated from Dartmouth College in 1894 and in 1898 received the degree of M.D. from the Bellevue Hospital Medical School in New York. He practiced his profession at Providence until 1906, then removed successively to Somerville, Mass., and to Everett. He was visiting surgeon to the Lafayette Hospital, Chelsea, Mass., and a member of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association. He is survived by his widow and by one daughter.

DR. HENRY O. WALKER, who died of pneumonia on April 5 at Detroit, Mich., was born in that city on Dec. 18, 1848. After obtaining his preliminary education at Albion College and at the University of Michigan, he received the degree of M.D. in 1867 from the Bellevue Hospital Medical College, New York. He immediately settled at Detroit, where he served as city and county physician and as a member of the local board of health. Since 1889 he had been professor of surgery at the Detroit College of Medicine, and was surgeon to Harper's and to St. Mary's hospitals. He was a member of the American Medical Association and chairman in 1910-1911 of its section on surgery. He was also a member of the Michigan Medical Society, of the Wayne County Medical Society, of the Mississippi Valley Medical Association, of the American Medical Editors' Association, and of the American Medical College Association.

DR. CHARLES WILSON, who died in Boston on April 5, 1912, was born on April 5, 1842, at Ossipee, N. H., the son of a physician. He was a graduate of Dartmouth College, and received the degree of D.M.D. from the Harvard Dental School in 1870. He then practiced his profession in Boston continuously until his death. He is survived by one sister and by two brothers.

DR. WILLIAM E. HOAG, of New York, died after a long illness, on April 2. He was seventy-one years of age, and a native of Centre Sandwich, N. H. In 1876 he was graduated from the College of Physicians and Surgeons, New York, and later from the New York College of Dentistry. While for a number of years he had devoted himself to the practice of dentistry, he continued to retain his affiliations with the medical profession, and was a member of the County Medical Society and the New York Academy of Medicine.

DR. LANGDON CHEVES DUNCAN, a retired Southern physician, died in New York on April 5, aged ninety years and six months.

DR. HENRY M. BLAKE, who died of pneumonia on April 7 at Monmouth, Me., was born in that town in 1836. He received the degree of M.D. from the Bowdoin Medical College, and had practiced his profession in Kennebec County since 1867.



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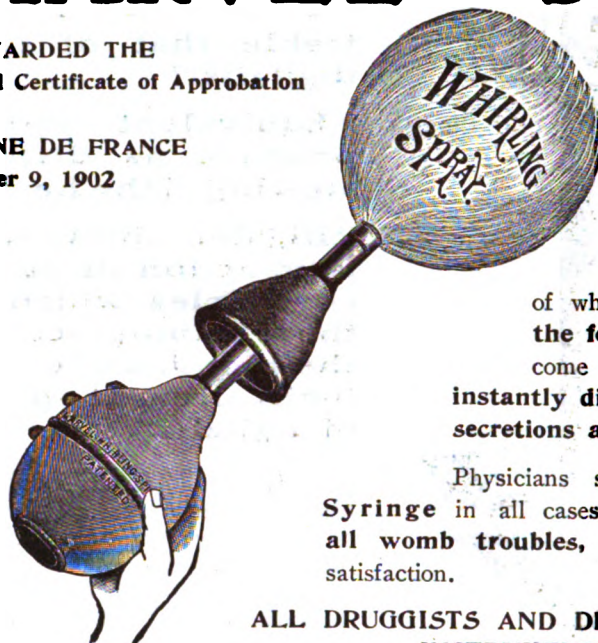


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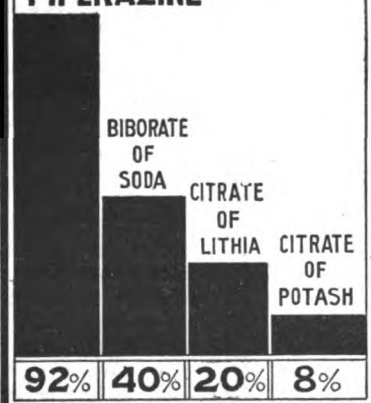
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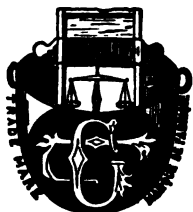
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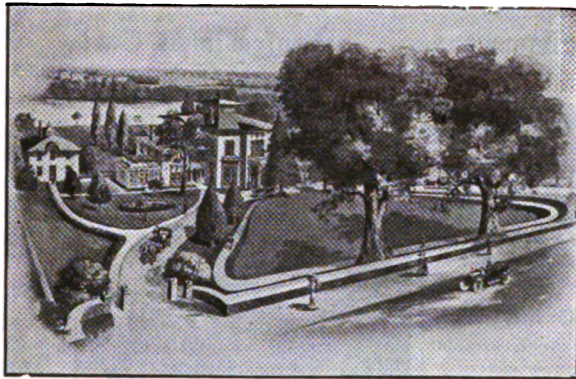
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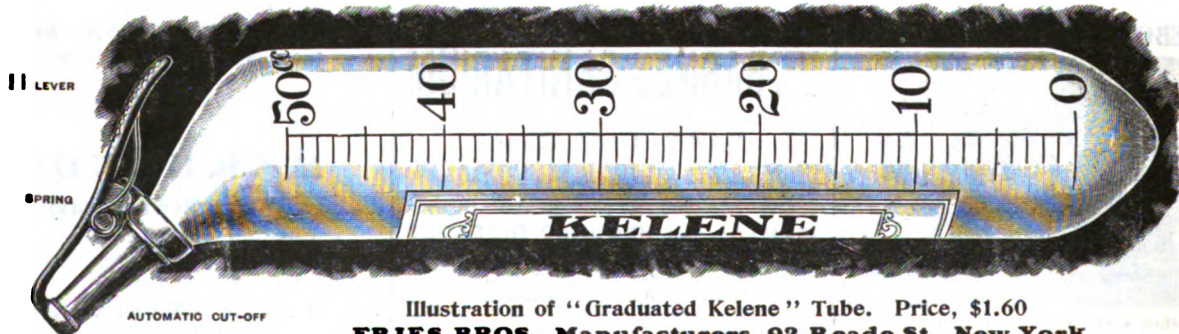


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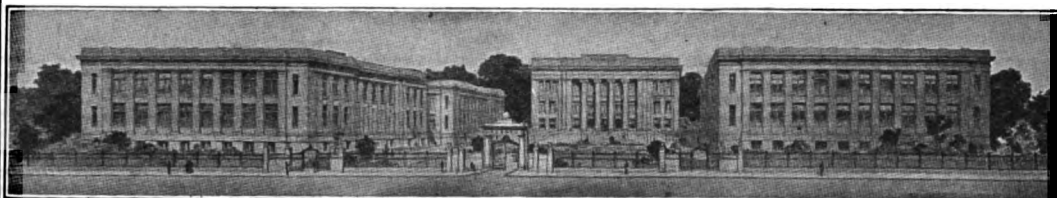
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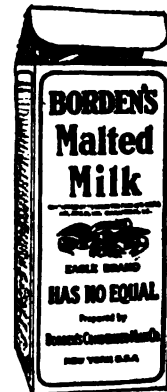
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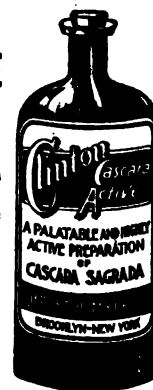
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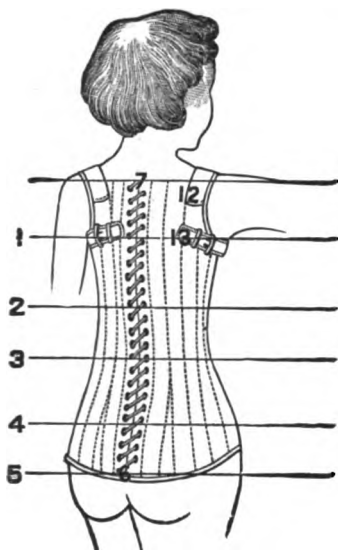
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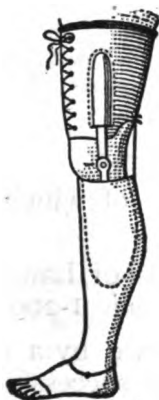
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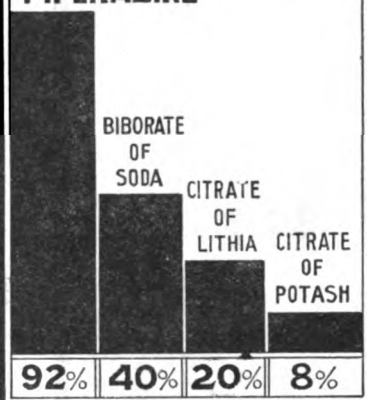
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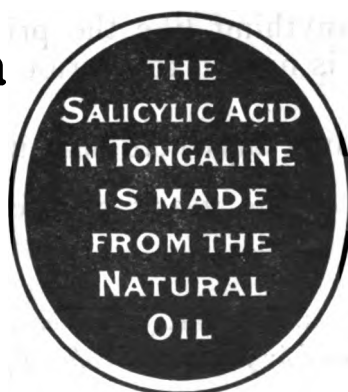
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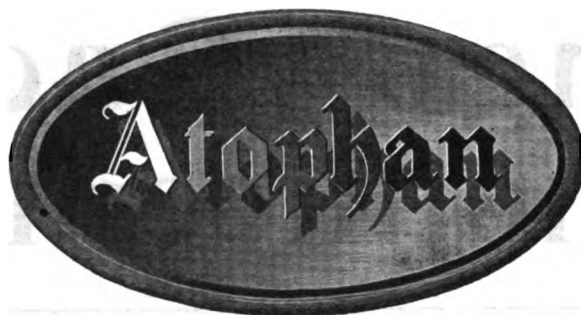
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## Addresses.

### AIMS AND PURPOSES OF THE ROBERT DAWSON EVANS MEMORIAL.\*

BY FRANK C. RICHARDSON, M.D., BOSTON,  
*Medical Director, Robert Dawson Evans Memorial.*

THE EVANS Memorial Department of Clinical Research and Preventive Medicine is now prepared to enter upon the work for which it is designed.

As a fitting memorial to the late Robert Dawson Evans a splendid building has been erected, fully equipped, and presented to the Massachusetts Homoeopathic Hospital, under the auspices of which institution its activities will be conducted. The building stands upon land ceded by Boston University for the purpose, and is connected by a bridge with the fourth floor of the Medical School building. By provision in the deed of gift, its facilities shall always be available for the instruction of students of Boston University School of Medicine.

The function of the building is not confined to that of a hospital proper, but is divided into three different services. On the main floor of the building is a large lecture hall capable of seating about two hundred and fifty people, in which popular lectures on hygiene and other subjects of importance entering into the everyday life of the people may be delivered. The fourth floor of the building, on the other hand, contains seven large laboratories for special research. In connection with these laboratories the second and third floors are divided into wards and private rooms, in which cases requiring especial study may be cared for. This sums up the various departments incorporated into the building, which in construction and equipment should inspire to the best efforts of those who are to work within its walls.

It is related that shortly after Chief Justice Chase had gone for the first time to Washington, he was returning to the West. The train stopped at a little station in Virginia, and he was informed that it was the birthplace of Patrick Henry. He immediately left the car and stood upon the platform admiring the magnificence of the scenery that opens upon the traveler. He said, "What an atmosphere! What a view! What glorious mountains! No wonder that Patrick Henry grew here." One of the natives, who was standing by his side, quietly replied, "Yes, sir, but as far as I have heard, that landscape and those mountains have always been here, but we haven't seen any more Patrick Henrys."

An inspiring environment is not sufficient to insure success. This fact was realized from the first, and the Board of Trustees, keenly alive to its magnificent opportunities for good, have secured for the institution a company of workers who are fully imbued with the profound conviction of its mission and with the obligation to fulfill it.

It would seem that the four elements which Henry van Dyke claims should enter into good

work in literature are especially applicable to good work in an institution of this kind, namely:

An original impulse, — not necessarily a new idea, but a new sense of the value of an idea.

A first-hand study of the subject and material.

A patient, unsparing labor for the perfection of result.

A human aim — to cheer, console, purify or ennoble the life of the people.

With these essentials in mind, the guiding principle of the Evans Memorial staff will be practically the philosophy of Christian socialism: "From every man according to his ability, to every man according to his need."

From the limitless possibilities for service, certain lines of work in the various departments have been selected for present consideration.

In the Pathological Department, the great bulk of the work can be classed under the one term: active immunization. With it will also be associated a greater or less amount of study along lines of chemiotherapy as outlined by the German school.

The work with immunization will be practically a continuation and extension of that already started at the hospital, and will cover many of the various infections and certain phases of cancer. Provision has been made for both house-patients and out-patients. In connection with the clinical room on the first floor it is hoped to establish a valuable out-patient clinic.

In the Chemical Department problems of nutrition, of excretion and particularly of respiration will be carefully worked out, as well as many others in chemico-pathology and chemico-physiology.

The main feature of the Physiological Department at present will be an extensive piece of research with the electric cardiogram, an apparatus recently brought to a high degree of perfection. Subsidiary studies in blood pressure and other physiological topics will also be followed.

Pharmacological studies may be made to determine the effect of drugs in large and small doses upon the human system, ideal conditions making it possible to have the subjects under proper régime and strictest supervision.

In the Neurological Department it is proposed to devote especial attention to the intricate problems of diagnosis, this to include not only regional diagnosis of the organic neuroses, but also careful study of the psychoneuroses by psycho-analysis, employing, when expedient, such well-known aids as the word-association test, the time reaction, etc. For this work there has been provided every facility and appliance for the utilization of the most approved methods, and whenever desirable all other departments of the institution are expected to co-operate in the effort to arrive at accurate and trustworthy results.

It is not intended to admit the true psychoses, but such borderline cases as in the opinion of the staff seem suitable may be admitted for purposes of observation and treatment.

Methods of treatment will include psychotherapy, electrotherapy, hydrotherapy, radio-

\* Delivered at the dedication of the Robert Dawson Evans Memorial Building, March 6, 1912.

therapy and mechanotherapy, and will enlist the services of trained workers along these lines.

A special subject for research in this department will be the relationship of vasomotor tone to neurasthenia, hysteria and allied conditions, and incidentally the determination of the effect upon blood pressure of electric currents of high and low potential.

It is the belief that education of the people is one of the most important factors in the prevention of disease, and in the Department of Public Education there will be given at frequent intervals popular talks upon topics appertaining to the preservation of mental, moral and physical well-being. These talks are designed primarily for the masses, and in order that they may be productive of greatest good, it is expected that the various settlement houses of Boston and vicinity will co-operate by sending to selected talks such persons as are most likely to profit thereby, accompanied by an official "worker," who may afterward interpret obscure points, aid in the practical application of the knowledge obtained, and report to the department the result with suggestions for the improvement of the work.

The following schedule arranged for the month of March, 1912, will serve to illustrate the scope of these talks:

#### PROPOSED HEALTH TALKS IN MARCH, 1912.

(Evenings at eight o'clock.)

Tuesday, March 12. Sex Hygiene. (To girls.) Eliza B. Cahill, M.D.

Thursday, March 14. Sex Hygiene. (To men.) O. B. Sanders, M.D.

Saturday, March 16. Paternity. (To men.) John L. Coffin, M.D.

Tuesday, March 19. Maternity. (To women.) Elizabeth Shaw Ritter, M.D.

Thursday, March 21. Tuberculosis. (To men and women.) Herbert C. Clapp, M.D.

Saturday, March 23. Fresh Air. (To men and women.) Edward E. Allen, M.D.

Tuesday, March 26. Dangerous Dirt. (To men.) Howard W. Nowell, M.D.

Thursday, March 28. Dangerous Dirt. (To women.) Susan M. Coffin, M.D.

Saturday, March 30. Effects of Alcohol and Tobacco. (To men.) Frederick P. Batchelder, M.D.

These talks will be illustrated by aid of the stereopticon whenever desirable.

Among additional topics which it is proposed to consider during the coming months may be mentioned: Industrial Hygiene; Public Sources of Contagion; Home Nursing; "First Aid" in Emergencies; Food Values; Care of the Teeth; Care of the Eyes; Care of the Skin; How to be Sane and Steady; Care of Babies.

Arrangements for the following lectures also are being perfected: Six lectures to physicians and medical students on "The Relationship of the Medical Profession to the Community"; six lectures to teachers on "Problems of Adoles-

cence"; three lectures on "The Importance of Right Thinking."

The dates upon which these subjects will be presented will be announced as soon as definitely fixed.

Such are some of the aims and purposes of this new department, but of perhaps far greater importance is the hope that such work as may be done here will stimulate the members of our profession to cultivate a wider range of thought and activity, and imbue them with a scientific spirit which will insure a cordial relationship with all their fellows. If we seek for some underlying quality by which to characterize the years last passed, we find nothing more marked than the tendency toward expansion of things which were once narrow, and consolidation of things which were once separated. Nowhere is this widening and consolidating activity more manifest than in modern medicine.

The medical profession has attained to a broader conception of its relation to the conservation of human life.

The growing realization of the added duty of the physician to prevent disease is rapidly bringing together those whom the single devotion to curative medicine had tended to keep apart.

One aim of our new institution shall be to foster this synthetic process and to inculcate the principle that our grand humanitarian service should be untrammelled by sectarian prejudice.

We enter upon our work with full appreciation of our limitations, but with faith that zeal will compensate for many shortcomings and enable us to contribute something to the accomplishment of scientific medicine in the relief of human suffering and the prolongation of human life.

"When one is climbing a mountain whose lofty peak he has long admired from a distance, there is an arduous ascent and one with many steps to be made; but how good and wholesome is the way. The path which winds through grassy meadows, the bridge which crosses the rushing stream pouring down from the heights, the slow and toilsome ascent, repaid by the purer air and the rarer flowers and the wider vision over obstacles, and then, at last, the height itself, different from the rest only in this, that it is the culmination! There can be no Parnassus without the steps that lead to it."

#### THE SIGNIFICANCE TO NEUROLOGY OF THE ROBERT DAWSON EVANS MEMORIAL.\*

BY JAMES J. PUTNAM, M.D.

It is a great pleasure to take part in the dedication of this superb building, and that for several reasons: In the first place, the investigations to be carried on here are to be undertaken in the name of pure knowledge; and this means that those who conduct them will travel on paths such as all men can traverse in company, and which lead to regions where all can meet on equal

\* Delivered at the dedication of the Robert Dawson Evans Memorial Building, March 6, 1912.

terms. In the next place, if the noblest study of mankind is man, the noblest part of the study of man is the investigation of his nervous system and his mind. For what do we live; for what do we make researches in anatomy, physiology and pathology; for what do we accumulate wealth, or help to alleviate sickness? Surely, it is in order that our best emotions, our aspirations and our wills may have a better chance to flourish.

Some of these aims may seem remote from medical studies, and they are not often discussed in medical circles. Yet, were it not that we feel them a background for our more specific inquiries, we should not be meeting here to-night. This, fortunately, is a period of the world's history, and of the history of our community, which is more promising for the fruitful study of neurology in its various aspects than any which has preceded it; and neurology, as you are well aware, is the field in which Dr. Richardson and I are more particularly interested.

The study of neurology can be undertaken from the points of view of anatomy, of physiology and of psychology. It is only of the latter of these methods of approach of which I wish to speak, and a portion of Dr. Cannon's remarks furnishes me the text for doing so. Dr. Cannon called attention to the fact that the problems of health and the problems of disease are really to some extent identical; that the signs of disease caricature certain of the conditions and limitations of health. Indeed, it might be said that what we call the signs of disease are the efforts—often extraordinary efforts—which the organism makes to recover a new equilibrium which shall serve instead of an old one which has been lost. In these efforts the organism shows a power which is one of the greatest proofs of its health and vigor. I wish now to point out that, in harmony with these propositions, it is being everywhere recognized that one of the most important departments, or, indeed, the most important department, of the psychology of the present day is that which is founded on observations made on persons who could be called sick, abnormal, or even criminal, and which is constantly being fostered by new observations of this same sort. It has been said that if you scratch a Russian you get a Tartar; and in a similar sense it might be declared that if you scratch a so-called healthy person you get a hysteric or a neurasthenic. It is proper that this should be recognized both by the "well," in order that their sense of responsibility may be awakened, and their sympathies aroused; and by the "sick," in order that they may be encouraged to recognize that they, too, have powers of overcoming obstacles such as fulfill the best definition of health.

I am extremely glad to know that nervous invalids (so-called psychoneurotic patients) are to be studied and treated in this building, and that one of the methods to be used for the investigation of their ailments is that which is known as the psycho-analytic method. The introduction of this last method marks, I think, one of the greatest advances, perhaps the greatest advance,

in the neurology of our generation. Through it we have learned to realize more fully not only that we ought to know ourselves, but that we can in great measure know ourselves, if we are willing to take the trouble, and willing to face the discoveries that we make. I have often thought it would be a good thing to write a paper on the subject of what one generation can do for the next. If this should be done, it ought to be stated that perhaps the most important contribution which one generation can make to the next would be to learn to understand more deeply human nature in general, and its own in particular. We all of us lead, to a considerable extent, double lives, repressing constantly large numbers of our instincts and emotions in response to the demands of somewhat exacting social laws. This process is unquestionably necessary, and, on the whole, is fruitful, but we ought to follow it with our eyes more widely open than they usually are.

We need also to know a good deal more than we do know about the history of early childhood. One often hears the phrase "the boy is the father of the man," but it is certain that the individual who invented it had no conception of the extent to which it is true. It is very difficult to study the first few years of childhood; but the methods are daily being better and better elaborated for doing this, and one of them, strangely enough, consists in probing the buried memories of the adult.

I congratulate those who have had to do with the construction and equipment of this beautiful building on the successful termination of their task, and the physicians on the prospect of fruitful work to be carried on within it.

#### THE SIGNIFICANCE OF A HOMEOPATHIC FOUNDATION FOR CLINICAL RESEARCH AND PREVENTIVE MEDICINE.

BY E. E. SOUTHARD, M.D.,

Bullard Professor of Neuropathology, Harvard Medical School, and Pathologist to the State Board of Insanity, Massachusetts.

*Clinical research and preventive medicine*—I have tried to conceive how these terms would have sounded to Hahnemann a century ago. The idea of clinical research would not have been quite foreign to him. The necessity of testing or "proving" drugs by their effects on healthy individuals was, indeed, always urged by Hahnemann. The idea of preventive medicine, born of modern bacteriology, would hardly have been understood in Hahnemann's day. Yet, could he have followed the progress of modern work in immunity, he might well have claimed a kinship between the principle of *similia similibus curantur* and certain principles of immunity. And he might well have been astonished at the remarkable effects of sensitization with extremely minute doses of certain substances in the phenomenon known as anaphylaxis.

*Similia similibus curantur!* How curious a coincidence it is that in the same year, 1796, that

\* Delivered at the dedication of the Robert Dawson Evans Memorial Building, March 6, 1912.

the German Hahnemann, of Meissen, proclaimed the principle of homeopathy, the first actual experiments toward the principle of vaccination for smallpox were being made by the Englishman Jenner, on the farms of Gloucestershire. Of course neither Jenner nor Hahnemann could claim absolute novelty for his ideas. The introduction of inoculation for smallpox into England was made by Lady Montagu in 1721, and the principle of *similia*, etc., had assumed a fairly definite shape in the sixteenth century with Paracelsus, the alchemist of Switzerland.

How much the national environments of Jenner and Hahnemann came to influence their products may never be said. Hahnemann lived in the age of the *Naturphilosophie*; the year after Hahnemann's announcement appeared the "*Wissenschaftslehre*" of Fichte and the "*Ideen zu eine Philosophie der Natur*" of Schelling. The scientific victory over the *Naturphilosophie*, and over the more elaborate and much misunderstood doctrines of Hegel, came for Germany in the late twenties and the thirties of the nineteenth century. In the days of Hahnemann's development, there was little or no *exakte Wissenschaft* in the German universities: any one with new ideas had almost perforce to cast them into a system to attain a hearing. No concrete work like Jenner's was then being done in Germany, or, for that matter, in France, if we except the "*Recherches physiologiques*" and "*Anatomie générale*" of Bichat (1800-1801). The epoch-making work of Laplace ("*Exposition du système du monde*") appeared in the very year of Hahnemann's announcement. In 1798 came Cuvier's "*Tableau élémentaire d'histoire naturelle*," followed soon by the "*Leçons d'anatomie comparée*" (1800-5).

Hahnemann's "*Organon*" appeared in 1810. It was the same year that John Dalton's "New System of Chemical Philosophy," embodying the atomic theory, was printed. It was the year after Lamarck's evolutionary ideas were published ("*Philosophie zoologique*," 1809) and the year before Charles Bell proclaimed what was to be the greatest English discovery in physiology since Harvey, — the difference between sensory and motor nerves. What chance of recognition did the literary-sounding *similia*, etc., have beside the atomic theory, the idea of adaptation, the inner mechanisms of the nervous system? And when Hahnemann did venture into concrete statements concerning causes with his *psora*, *syphilis* and *sycosis*, he was singularly unfortunate. But neither the trinity of *itch*, *great pox*, and *fig-warts* nor the singular dosage system — a later creation of Hahnemann — can be considered, as I understand it, an integral portion of the Hahnemannian doctrine, which stands or falls mainly on the doctrine of *similia*, etc., which has given it its name.

A fair example of old-fashioned German system-making, homeopathy has never obtained large recognition in the new Germany or at any time in individualistic England, but it did obtain considerable foothold in France, where clarity and definiteness of form have always appealed.

It was to France that Hahnemann eventually repaired, and there he was buried with due honors in Père-Lachaise.

In the very year that the philosopher Hegel died and the physiologist Johannes Müller was demonstrating the truth of Charles Bell's doctrine of the nerves, homeopathy was virtually read out of Germany (1831). In America, the land of contrasts, homeopathy has flourished more than elsewhere and is virtually a religion with some. Almost with *Schadenfreude*, the opponents of homeopathy have watched it, like various religions, develop inner dissensions. High potency purists and low potency innovators are found. Some claim the virtues of the rest of medicine plus those of homeopathy!

Committed to a system, what were homeopaths to do? They could not sit by and watch the procession of new ideas. As science developed, the doctrines of immunity seemed a living and concrete instance of *similia*, etc. Syphilis certainly has vindicated the interest of Hahnemann therein, if *psora* and *sycosis* have not. The new ideas of radio-activity, certainly not homeopathic in their origin, could be claimed as demonstrating a certain potency of unimaginably small things, not to say a spiritual agency such as some homeopaths invoke.

Here in Boston, perhaps the leading center of homeopathy in the world, we have learned respect for homeopaths. Personally I have the greatest respect for homeopaths, but no more for homeopathy than for many other systems helpful in their day, but now inadequate. The river of homeopathy has had a century or so of separate flow round an island of prejudice. But that island had more length than breadth, and now the river itself seems about to flow once more into the deep irresistible main river of general medical progress.

A concrete example of this I see in my work as pathologist to the State Board of Insanity. This board has to supervise the homeopathic institution of our commonwealth at Westboro. In my annual reports I find much to commend publicly in the Westboro work, and particularly the work of Dr. S. C. Fuller, pathologist at Westboro. No better enthusiasm prevails than that found in Fuller's laboratory. His spirit and that of Dr. W. H. Watters show that the new building means no new conception to Massachusetts homeopaths.

Now that the Robert Dawson Evans Memorial Building has been dedicated to the interests of clinical research and preventive medicine, let us, therefore, take it as a sign that the Hahnemannian system, like most systems of this world, will prove self-destructive, but at the same time productive of a new self the better for the existence of the old. I understand that the higher textual criticism has been applied to homeopathy also by the true believers, and that *similia similibus curantur* is a phrase not found in Hahnemann. Instead, we find only the subjunctive *curantur*. Most human designs are in the subjunctive. If the workers in the new Memorial Building admit

no universal affirmatives and stick to the *lets*, *mays* and *ifs* of science, perhaps old Hahnemann himself from his spiritual state of infinite trituration will beam down upon us all in a refinement of unexpected joy.

### Original Articles.

#### SOME OBSERVATIONS ON THE SYMPTOMATOLOGY OF CHRONIC DUODENAL ULCER.\*

BY HENRY S. BOWEN, M.D., BOSTON.

CHRONIC duodenal ulcer, a condition hardly recognized clinically ten years ago, and diagnosed usually at autopsy, is one of the most interesting and most discussed subjects in medicine and surgery to-day.

To Moynihan in England and to the Mayos in this country is due the credit of bringing this condition to the notice of the medical world by proving from their large number of cases that it is not an uncommon disease. Their work in modern abdominal surgery has shown us that many, if not the greater part, of the so-called stomach disorders considered for generations as functional are really organic disturbances. In fact, the number of functional disorders of the digestive tract is now reduced to lowest terms, and the family practitioner of to-day must, in the proper care of this class of cases, satisfy himself thoroughly that he is not dealing with true structural changes in the stomach, duodenum, gall bladder or appendix.

We are willing to admit, I think, that in our time we have written many a favorite prescription for dyspepsia and gastralgia, and it is probable, too, that in many of these cases we have contributed our share of those "nine complete and permanent medical cures," after which, Dr. Mayo facetiously remarks, it is about time to operate for chronic duodenal ulcer; but in justice to ourselves we can say with truth that often we felt that we were dealing with some organic condition on which no light had ever been thrown. We did the best we could before surgery enlightened us, and if we still feel that it is a subject that requires more exact and more tangible evidence for its diagnosis and ask for still more light from the abdominal expert, whether he be a surgical or a medical man, we do so on the ground that we have yet to be shown that a gastro-enterostomy done for some functional disturbance or for appendicitis, gallstones or the vomiting of pregnancy is less dangerous, less harmful or less expensive than our own well-tried favorite simple prescription for dyspepsia.

I believe that in general in the teaching of the diagnosis of disease there has been too much attention paid to the so-called typical or classical symptoms. We are told, "The diagnosis is easy, the typical symptoms are so and so," but when

experience begins to show us that it is seldom easy and that typical symptoms are not always present, we begin to be real students of medicine. Each case is a law unto itself, and accuracy in diagnosis is reached rather by a careful study of each individual case with its history, symptoms and physical signs, and by the admission of all possible evidence, and consideration of every possible disease of the region with which we are dealing. It is a process of elimination, of deduction and of logical, sensible impartial reasoning. Even after all these brain processes, we are often left on the horns of a dilemma, especially when the abdomen is the region under consideration. Yet, after a decade of endless discussion and writing on appendicitis, gallstones, pancreatitis, diverticulitis, salpingitis, ectopic gestation and what not, chronic duodenal ulcer comes to occupy the abdominal stage, and Moynihan, the most extensive writer on the subject, tells us that in his experience the diagnosis of this condition is made with a degree of accuracy that is not exceeded in the case of any other abdominal disorder. Then, after mentioning organic disease of the stomach, duodenum, gall bladder and appendix in one breath, he says that duodenal ulcer stands out the clearest; which may be literally true if we admit that the word "clearness" is at all suggestive of the abdominal conditions mentioned. Mayo, too, sees no difficulty in the diagnosis of chronic duodenal or gastric ulcer.

Now for these gentlemen, fortunately situated and having the benefit of every possible advantage that human aid can give, the diagnosis of ulcer is undoubtedly a very simple matter. It has often seemed to me that the specialist in diseases of the stomach has only to make his diagnosis on our mistakes or failures, or rather, on the lack of opportunity that we have to do ourselves justice. We see these patients for the first time in the office rather than at the bedside, listen to a meager, uncertain history, prescribe and tell them to come again. If we say too little they are dissatisfied and may seek advice elsewhere; if we say too much they may become frightened, with the same result. In any case, if our treatment fails some one else sees them and thus they go the rounds trying every possible remedy, until they reach the special man. These men must be poor indeed if they cannot read the real cause of the patient's trouble from his long history of varied unsuccessful treatment. If we do not make our diagnosis quickly we lose our patient, and with these conditions adding difficulty to our task, how can the diagnosis of an obscure abdominal condition be said to be easy?

In my own practice for the past few years, I have been watching for cases of chronic ulcer of the duodenum presenting the so-called typical symptoms, and consequently I have paid particular attention to every case of digestive disturbance. A number of these cases I have operated, and others I have kept under observation, but I confess that the situation is not always as clear as I had been led to believe.

\* Read before the South Middlesex Medical Society at the semi-annual meeting held at the Boston Medical Library, Jan. 16, 1912.

It is because of this that I want to present to you a few observations on this condition.

If we accept Moynihan's view, there are few conditions the symptoms of which appear in such a definite and well-ordered sequence as duodenal ulcer. Repeatedly he emphasizes the importance of the patient's story and insists that upon it alone a confident diagnosis can be made. The most characteristic feature is the periodicity of the symptoms and their recurrence from time to time in attacks with a complete abeyance in the intervals. Patients usually date this complaint from an early period in life. As a rule, the victims are in middle age, from twenty-five to forty-five, and males rather than females are afflicted.

In the beginning of this trouble, insidiously at first, the patient begins to suffer some two or more hours after meals from a sense of weight, oppression or distention in the epigastrium. If pain and discomfort were present before food is taken they immediately disappear for a time, but in the course of a few hours they return again. As a rule, the pain comes gradually and gradually increases, becoming more severe and being accompanied by a sense of fullness, when there is an eructation of bitter fluid or of gas, which affords relief. The interval between the taking of food and the onset of pain is remarkable, and especially is it constant from day to day, if the character and quantity of food remain the same. Seldom does it appear in less than two hours. Many patients volunteer the statement that the pain begins to appear when they begin to feel hungry, — hence the expression, "hunger pain." Usually it is noticed at first after the heaviest meal of the day. It soon wakes the patient at night, and frequently the time of waking is two o'clock.

Very often the patient goes to bed with a glass of milk or a cracker in readiness to take when he wakes up.

The regular appearance of the pain after definite intervals from the taking of food is striking and consistent. It is often preceded or accompanied by a boring, gnawing or burning sensation in the epigastrium. It may be relieved by belching or by continued attempts to raise gas. Belching up of bitter fluid is common and has a destructive effect upon the teeth of these patients, who often have the incisor teeth of the upper jaw dissolved away nearly to the gum line. For a long time the pain remains in the region of the stomach, but may later strike through to the back or pass around to the right side. When severe, it is often relieved by pressure.

Vomiting is very infrequent and is rarely present until stenosis occurs. The majority of the patients upon whom Moynihan has operated have never vomited.

Hemorrhage, either as hematemesis or melena, is of all the signs and symptoms the least valuable, according to Mayo; and unless it is preceded or followed by other evidence, it is probably not due to chronic ulcer; and he further remarks that if there is doubt in our minds as to the cause of hemorrhage which we see coming from the

stomach, what must be our attitude towards the so-called occult blood in the stool? If found it is merely up to us to guess where it came from. If it is corroborated by other evidence of a substantial nature, it has value, but of itself it means little. Moynihan also disregards hemorrhage in the diagnosis, considering it not as a symptom, but as a late complication, the onset of which is not to be awaited that a doubtful diagnosis may receive confirmation. He insists that its appearance can usually be prevented by a timely recognition of the early symptoms.

Diagnoses based upon the analysis of the gastric contents have a certain value, but must not be considered of too much importance in determining the presence of ulcer since we need other definite evidence to corroborate the laboratory report.

As for physical examination, it tells us little, since there is, according to these gentlemen, no single sign of the presence of organic disease in the stage when the ulcer should be recognized. Tenderness in the middle line of the epigastrium or to the right is found in only a few cases and is relatively of little importance.

Briefly; then, we may summarize our evidence as the story of disease beginning usually in the young male adult who develops a history of stomach trouble, marked by bitter, sour, acid belching and regurgitation, and pain coming on at from two to three hours after meals and relieved by taking food. These spells gradually begin to recur at closer and closer intervals. Vomiting is almost unknown, and hemorrhage may be disregarded in the early diagnosis and considered as a late complication. Physical examination is practically negative.

As a means of diagnosis, then, of one of the most important and most serious pathological conditions in a region of the anatomy where diseases are many, fickle in their manifestation, treacherous and oftentimes mysterious, we have only a patient's story to disentangle the skein of possibilities. And who shall say that it is an easy task, when we consider the almost infinite distance between the callous, uneducated, nerveless, young working fellow, who comes to your office merely to ask for something for his stomach, and the hypersensitive, refined, nervous type of patient who begins with a story of stomach disorder and soon forgets it all in his terror of heart and lung disease. In the first case we learn too little because the type minimizes rather than exaggerates; and in the second case, we hear too much exaggeration and can never get the same story twice.

Considered surgically, the abdomen is an immense field in which further exploration is still possible; whereas anatomically, it is comparatively very small. The organs that lie there have to do for the most part directly or indirectly with the processes of digestion and absorption. The relation between general bodily health and the functions of the alimentary canal is a very close one. The different parts of the canal with its tributary glands or diverticula are so closely interrelated that the digestive processes are an



orderly series of successively dependent events. Disturb one anywhere along the canal and the harmony and rhythm of the whole is disturbed in consequence. It has been shown that after intestinal section and suture about ten inches below the pylorus, the food does not begin to leave the stomach for five or six hours following the anesthetic. The peristaltic waves are active, but the pylorus closes and holds tight and does not permit the food to reach the injured gut. There is a remarkable coincidence between the time during which the pylorus holds back the food and the time immediately after operation required for the primary healing of intestinal wounds.

The significance of all this is that disturbance anywhere along the tract finds its expression reflexly in the stomach, because the duodenum, which is in control of the pyloric apparatus, closes the sphincter and bottles up the food in the reservoir above. We have, then, a consequent fermentation with indigestion and gastric distress as a result.

The relation of the duodenum to all the abdominal digestive organs is a close one anatomically, physiologically and pathologically. The stomach, common bile duct and pancreatic duct empty directly therein, and in it take place the most important digestive changes. A silver dollar can almost cover the area where it is in relation to the gall bladder, common duct, pancreatic duct, head of pancreas, portal vein, transverse colon and right kidney. Moreover, when the appendix or any other distant part is in trouble or there is a condition of ptosis of any of the abdominal organs, it usually first makes itself known by signaling its distress to this overburdened area, pregnant with pathological possibilities, and we have the consequent reflex irritation of the stomach with spasm of the pylorus, nausea, vomiting and diffuse abdominal pains.

This gives one an idea of the difficulties to be met with in making a differential diagnosis of chronic duodenal ulcer. This explains why so often we see gallstones diagnosed as appendicitis and, vice versa, perforated duodenal ulcer discovered when we have gone in for appendicitis or gallstones, and acute pancreatitis seldom diagnosed as such, but found after the patient has been operated for something else. This also is why diseases of adjacent organs frequently co-exist; gastric and duodenal ulcer with cholangitis, and cholangitis with pancreatitis. Possibly this also explains why a few days after a noted surgeon was recently operated for an appendix, it became necessary to open up and drain his gall bladder.

From this it can readily be seen that a lengthy differential diagnosis of this condition, besides being beyond the scope of a limited paper of this kind, is rather an attempt to bring an artificial order out of chaos, because, as has been pointed out, it involves a discussion of the many correlated pathological conditions of the digestive tract: Nausea, vomiting, eructation, stomach distress and pain bearing an early or late relation to the time of eating, from a hazy, elusive and more

or less confusing symptom-complex in all these disorders. In the first place, it seems that we may reasonably take issue with Moynihan that severe recurrent hyperacidity is always duodenal ulcer. In gastric ulcer the pain is in the epigastrium, radiates to the left side, occurs very soon, usually within one or two hours after eating, and is aggravated by taking food. Moynihan emphasizes the time element, insisting that the period of relief from pain is the first and chief point to be considered. With gallstones we are told that the orderly sequence of events present in duodenal ulcer is absent, and that such a definite periodicity of symptoms is never seen. The pain may be in the epigastrium or under the right costal margin, radiate to the right chest or back, and be referred to the right shoulder. It may come at any time, immediately after taking food or within an hour or more. It begins suddenly, is unbearable, often causes severe nausea, is made worse by food, and disappears as suddenly as it came. Tenderness may or may not be present under the right costal border. As for chronic appendicitis, it needs merely a passing mention since there is hardly one here present who has not had his experience with this deceptive condition and whose pride in his diagnostic ability has not at times had its severe knockout.

To illustrate the difficulties which I have encountered in dealing with this affection, I am reporting a few cases. Their analysis is intended to illustrate a concrete personal experience, possibly the experience of many of us.

CASE I. A few years ago I saw a young woman twenty-two years of age, who gave me the following history: At intervals of three months during the preceding three years she has had attacks of epigastric pain, usually accompanied by vomiting, and lasting from two to four days. This was usually followed by a week of lassitude and anorexia. There was no loss of flesh, and between attacks her health was good.

During one of these attacks, I was called to see her and found on examination some tenderness over McBurney's point with spasm of the right rectus muscle. There was a slight elevation of temperature. A diagnosis of chronic recurrent appendicitis was made, and at operation next day a diseased appendix was removed. Recovery was uneventful. A few months later, there was a return of symptoms accompanied by an attack of hematemesis followed by melena. A recurring similar attack six months later led to a second operation, when a small duodenal ulcer was found on the posterior surface of the duodenum within one-half inch of the pylorus. Posterior gastro-enterostomy was done with complete relief of symptoms.

It is possible that examination of the gastric contents and the stools might have shown blood when she first came to me, but if it had I would probably at that time have operated for the ulcer and left the appendix, in which case I would have been no better off, because the appendix would undoubtedly have to be removed at some future time. This was one of my early cases and I have profited by the experience.

CASE II. This patient was a man thirty years of age who had been troubled for four years with pain coming on at about two hours after eating with accompanying cardiac palpitation and marked gastric distress. Only once did vomiting occur, and belching of bitter fluid was rare.

Food never relieved his pain. At operation a small ulcer was found on the posterior surface of the duodenum. Posterior gastro-enterostomy was done. The man had lost considerable flesh, but four months after operation he showed a gain of 16 lb. His symptoms have been entirely relieved. This is typical only in respect to the time of the occurrence of pain after eating.

CASE III. This was a man thirty-three years of age who for one year had a history of attacks of gastric distress one hour or more after eating. Then followed attacks of hyperchlorhydria that were relieved for a time by belching, at other times by sodium bicarbonate. When first seen, physical examination was negative. His diet was regulated and some digestive remedy was prescribed. During the next two months, though he complained frequently, he seemed fairly well, and kept at his work. During the third month, signs of pyloric obstruction became evident, as shown by the weekly or semi-weekly vomiting of considerable amounts of food and by a quite rapid loss of flesh. Examination of the vomitus showed no occult blood or lactic acid, but did show an excess of free hydrochloric acid. At operation was found carcinoma involving the entire stomach.

Both the story and the age of the man are suggestive enough of chronic duodenal ulcer, and carcinoma was hardly to be suspected.

CASE IV. This man, forty-eight years old, for two years complained of periodic attacks of pain and distress coming on from one and one-half to two hours after eating. There was never any vomiting, but occasionally belching up of gas and bitter fluid, which became a daily occurrence before he saw me.

A sharp attack of epigastric pain accompanied by hematemesis and melena caused him to consult me. There was very little loss of weight, he looked very well, and except for slight deep epigastric tenderness, his physical examination was negative. With the patient complaining that his symptoms were persisting in spite of my treatment, I decided to operate. Only an exploratory laparotomy was necessary, however, since a carcinoma involving the entire cardiac region of the stomach was found adherent to all the surrounding parts. For a short time there was, as one occasionally sees, some cessation of symptoms, and he had a certain degree of ease. Two months later, returning discomfort led him to go to a neighboring hospital, where the medical man who examined him made a diagnosis of chronic ulcer and recommended him for further surgical treatment. The surgeon on duty, after communicating with me for information about the previous laparotomy, discharged the man without doing anything. Three months later he died.

The early history of this case was not unlike that of ulcer, and even two months after I had found extensive carcinoma of the stomach the symptoms related by the patient led an internist to make a diagnosis of duodenal ulcer.

CASE V. The patient was a man sixty-two years of age, whom I first saw about four years ago with a severe osteo-arthritis of the spine. His complaint was of almost constant pain for two years in the epigastrium, extending through to the back. There was some loss of flesh and strength, with poor appetite. Physical examination showed marked deformity in the mid-dorsal region involving two or three spinous processes. He walked characteristically. A plaster jacket gave immediate relief, allowing him to work on his farm all summer until with the approach of fall, his returning symptoms made him seek treatment again. A second plaster jacket gave little or no relief and soon he began to vomit large amounts of food every few days. There

was now considerable loss of weight and evident signs of pyloric obstruction. At operation was found a large thickened ulcer of the duodenum with chronic adhesions everywhere. Posterior gastro-enterostomy gave such marked relief that one year later he had gained 20 lb., was able to eat everything and felt well in every respect.

Here the true symptoms were masked by an osteo-arthritis with considerable deformity, and the cessation of symptoms after the first plaster jacket was applied seemed to indicate that the spine was the source of trouble. The history was anything but "typical" of ulcer and he was at an age when cancer would seem to be more probable.

CASE VI. The patient was a young man twenty-five years of age with a history of four years of periodic attacks of pain over the precordia. Two years before I saw him, these constant attacks caused him to be discharged from the army as a malingerer. Severe precordial pain came on from one to two hours after eating, and has seldom been relieved by food. His own story of the pain reminded one of a description of mild angina pectoris. There had been no vomiting, but he did have occasional attacks of distressing sour stomach. Very little weight had been lost. As medical treatment failed to give him any comfort, I decided to do an exploratory laparotomy and found a chronic duodenal ulcer the size of a twenty-five-cent piece. The gall bladder was negative. A posterior gastro-enterostomy entirely relieved his symptoms, and during the past year and a half his weight has increased 25 lb. and he had never lost a day from work.

Here the pain, referred to the precordia, falls well outside the "typical" symptoms.

CASE VII. This patient was a young man twenty-three years old. He gave a history of periodic attacks of pain for two or more years coming exactly two hours after meals. There was nothing in his previous history. These attacks had come on gradually and had gradually increased. Physical examination showed some tenderness in the epigastrium, but the rest of the abdomen was negative. He had vomited once. Medical treatment was of no avail. Belching of gas and eructation of bitter fluid appeared. At times he was obliged to resort to pressure for the pain in the epigastrium, and small amounts of food occasionally relieved him. He was always thin and consequently showed very little loss of weight. There never was any hematemesis or melena. Physical examination showed some epigastric tenderness, but nothing else. I felt convinced that he probably had a chronic duodenal ulcer. A laparotomy proved that I was wrong. Everything about the stomach, duodenum, gall bladder and pancreas was normal. In the region of the appendix I found everything adherent and there was present an unusually well marked "Lane's" kink. The appendix was removed and the kink relieved. There was good recovery and since operation all the symptoms have disappeared. Why his story was so suggestive of ulcer finds a possible explanation in the pathological findings of this case. From recent work with the x-ray in observing the progress of the food from the stomach through the intestine, we know now that the process of digestion is much more rapid than was formerly supposed.

Here the condition around the cecum and appendix when the bowel was kinked and a low-grade inflammation present, was such as to cause trouble. When the food reached this area, probably about two hours after the meal, the result was reflex pain and discomfort in the stomach and spasm of the pylorus which I have already described. It is probable that the time of the onset of pain in many of these associated conditions is

dependent on the time it takes the first food to reach the diseased point.

CASE VIII. This was a man fifty-eight years of age. For five years his complaint had been of constant daily pain high up in the rectum with gastric distress after meals. There was a noticeable loss of weight and strength. Before I saw him he had been treated by another physician who had at times given him cocaine and morphia suppositories for the rectal pain. Therefore, when he came to me I treated him for cocaine and morphia habit. About the time that this was under control he had a large hemorrhage from the stomach with tarry stools. Death followed in a few days. Post-mortem examination showed a large thickened ulcer of the duodenum.

Here the symptoms of severe pain referred to the rectum, and almost masking his gastric distress led an excellent physician to use morphia and cocaine to give the man relief. When he came under my care the drug habit that he had developed confused the symptoms until it was too late to do anything to save his life. Hemorrhage gave us the first clue to this man's real condition.

The foregoing cases occurring in one man's practice are but a small contribution to a vast subject. With the exception of the one that came to autopsy, I have seen them from their early symptoms and treated them medically and surgically. Their summary shows chronic duodenal ulcer without other lesions three times; once ulcer accompanied by chronic appendicitis, and once its symptoms were confused by a marked osteo-arthritis of the spine; another ulcer was found at autopsy. On two occasions I came upon unsuspected advanced carcinoma of the stomach and once found chronic adhesive appendicitis. Generalization from these few results is out of the question, but these other considerations led me to select the title of this paper. After what faithful though perhaps limited study that I have been able up to the present time to give to the symptomatology of this disease, I have been struck with, may I say, the uncertainty of finding it and of the reasonable certainty of discovering some other pathological change. To most of us the upper abdomen, until within the last few years, has been a region on the borderland of mystery where there were things which lay beyond the scope of our analysis. However, I believe that nowadays, when careful medical treatment of stomach trouble appears to do no good, and when after conscientious study we feel that there is something organically wrong, we should have no hesitation in advising a laparotomy. We should never be satisfied with leaving the abdomen before every possible source of trouble is searched for and corrected. If we follow this rule I believe that we will do much to avoid the disappointment of those uncomfortable days which we all have had when we removed, perchance, a normal appendix without relieving the symptoms, and we will have instead the satisfaction of knowing that even if we did not make the exact diagnosis, it was at least a deduction of reason and not a creation of fancy.

## DIAGNOSIS OF SOLITARY KIDNEY, BLOCKED URETER AND KIDNEY INACTIVE BY REASON OF PREVIOUS DISEASE.

BY EDGAR GARCIAU, M.D., BOSTON,

*Fellow of the American Gynecological Society, and of the International Association of Urology.*

It is needless to insist on the necessity that exists for knowing whether two kidneys are present in the body in contemplated renal operations. The writer believes it to be inexcusable to undertake operations of this nature unless one is certain that two kidneys are present.

The commonest method of making a diagnosis of the presence of two kidneys, actively working, has been to pass a catheter into each ureter and to collect the urine from each side. This is final and conclusive. It is not, however, always possible to catheterize both ureters, and it is this class of cases with which this paper deals.

The ureter may be absent on one side and there may be no vesical opening whatever on this side. The examiner searches in vain for the opening; he does not find it. He thinks it may be hidden in a fold of mucous membrane. Repeated examinations lead to a similar result. Then he passes an ordinary ureteral catheter into the ureter of the opposite side, lays an additional vesical catheter in the bladder and trusts that the vesical catheter will collect the urine, if any, from the side upon which he has searched without result. This is a successful maneuver provided there is no urine obtained by the vesical catheter, and the diagnosis of solitary kidney, blocked ureter or kidney inactive by reason of former disease is made. If, on the other hand, the examiner gets urine with his vesical catheter, he cannot say whether it is urine from the opposite kidney or not; in other words, the vesical urine may well be urine which has leaked down alongside the ureteral catheter which has been too small to plug the lumen. More or less leakage of this kind occurs in 48% of the cases in which even as large a ureteral catheter as No. 8 F. has been placed in the ureter for the purpose of collecting the urine. It amounts to 20 ccm. in 21%, 20 to 50 ccm. in 8%, 50 to 100 ccm. in 3% and 100 ccm. or more in 16% of the cases. These figures are for the two-hour polyuria test in which the catheters remain *in situ* during that length of time. Cathelin<sup>1</sup> reports a case in which a catheter was laid in one ureter and the urine from the bladder collected by means of a vesical catheter. An appreciable amount was obtained from the bladder and nephrectomy was performed. The patient died, and at the autopsy it was found that there was a single kidney. The urine had leaked down alongside the catheter in the ureter and was collected by the vesical catheter.

It is evident from the above figures that the leakage occurring with No. 8 F. catheters is not negligible. It is not a trustworthy method. We must have something surer.

Absence of the ureteral opening is not the only difficulty. The ureteral orifice may be present,

<sup>1</sup> Folia Urologica, 1908, ii, 68.

but may not be found. This may be due to its being obscured by being caught in an old tubercular cicatrix; it may be behind a fold of mucous membrane; it may be in a pocket of a trabeculated bladder; it may be, in the female, misplaced and distorted by a former vaginal cystotomy. In other cases it is possible that it may be easily found but cannot be entered because of kinks; or its lumen may be entirely obliterated by reason of tubercular disease and the kidney above be inactive from previous continued suppuration. Finally, the catheter may be arrested in some part of its course by a stone blocking the lumen of the canal.

If we can totally, effectually and continuously plug one ureter with an appropriate catheter, at the same time laying another catheter in the bladder, we shall be sure of collecting the total output of urine from the kidney in whose ureter the catheter has been placed; at the same time, if we draw urine from the vesical catheter we shall know that a kidney discharging urine exists on the opposite side; if no urine is drawn with the vesical catheter we shall know that one of the following conditions is to be reckoned with: (1) solitary kidney; (2) blocked ureter, from stone, kink, obliterative disease, etc.; (3) kidney inactive and non-secreting from previous disease.

The writer has devised a catheter which will accomplish this result.<sup>2</sup> It is very simple in construction. It has a caliber of No. 11 F. at one end and this caliber is maintained to a point 15 cm. from the opposite end. It now begins to taper gradually and progressively until it reaches the opposite end where it has a caliber of only No. 6 F. It will be seen that it can be compared to a conical cork which fits tightly into the neck of a bottle. When in place it allows of no leakage whatever.

The cystoscopes which take this large catheter are three in number. Two of them were devised by the writer. One is made by Collin, of Paris, and the other by Loewenstein, of Berlin. The first is a direct catheterizing instrument; the second an indirect one. The third cystoscope is made by the Wappler Electrical Company of New York and is their 1911 model. The last two are the best because they are indirect instruments.

The method of using these instruments is simple. The cystoscope is introduced into the bladder, the opening is sighted and the ureteral catheter is pushed into the ureter as far as it will go with ease. It is not necessary that it should be jammed too tightly in the ureter. The best vesical catheter is one that has a number of holes in its vesical end so that the examiner may be sure that all the urine is being collected.

Having determined the absence of urine on the suspected side, it remains to make a differential diagnosis. If the patient has never had any symptoms whatever on the side in question the probability is, absent kidney, especially if no ureteral orifice can be found in a smooth

bladder. Blocked ureter may be of the acute or the chronic variety. The acute form is usually due to stone. Here the fulminating symptoms, colic, local tenderness and general disturbance, leave no doubt as to the diagnosis. In the chronic form, also usually due to stone, the x-ray will be of assistance, also a history of previous pain in the kidney together with other localizing symptoms. A kidney inactive and non-secreting is diagnosed by the previous history. If the patient has had renal pain, if there has been tumor, and especially if there has been abundant pyuria, in former times, we may suspect some suppurative process which has gradually destroyed the kidney and has rendered it inactive. The following is an illustrative case.

Miss A. F., aged twenty-eight, came to the writer eight years ago. She then had a violent cystitis of some years duration, proved to be tubercular by the guinea-pig test. During that time there had been abundant discharges of pus in the urine. With this there had been left-sided kidney pain. After repeated attempts the writer was able to catheterize the left ureter. A catheter was left *in situ* five hours. No urine flowed through it, although it was known to be patent. The right kidney urine was excellent. The diagnosis, then, was, inactive left kidney destroyed by tubercular disease. The tubercular bladder troubled her so much that a vaginal cystotomy was done and the fistula was allowed to remain open for two years. During this time she gave herself through the urethra daily instillations of mercuric chloride solution in the strength of 1:5000 to 1:1000 injection, fifteen drops each time. At the end of two years she had no more pus in the urine and the fistula was closed. There was a contracted bladder holding 85 ccm. which was dilated by hydraulic pressure at intervals. At the end of a few months it held 200 ccm. She then stopped coming. She returned six years later with a story of frequent micturition. The urine contained a small amount of pus. No tubercle bacilli were found and the guinea-pig test was negative. The bladder was red at the base and was again contracted so that it held only 60 ccm. Repeated attempts to catheterize the left ureter failed. The right kidney urine was good. In order to confirm the diagnosis of inactive left kidney a No. 11 F. occlusive catheter of the writer's design was passed into the right ureter and another ordinary catheter perforated with numerous holes at its vesical end was laid in the bladder. No urine was collected by this vesical catheter during a half hour. The previous diagnosis of inactive kidney on the left side was thus confirmed.

Her bladder is now being dilated and already holds 300 ccm.

## MENTAL HYGIENE AND THE SPECIAL CHILD. A CHAPTER IN SOCIAL PATHOLOGY.

BY BERTHA C. DOWNING, A.M., M.D., WORCESTER, MASS.,

*Sometime Superintendent of the School Department of the Vineland Training School for Feeble-minded Children; Sometime Honorary Fellow, Clark University.*

MY work with "special children" has been productive of many remarkable results the past few years. It is but justice to such children that it be reported. It has grown out of years of experience, begun at the Elwyn (Delaware County, Pennsylvania) Training School for the

<sup>2</sup> BOSTON MED. AND SURG. JOUR., 1910, clxii, 745; and Berl. Klin. Wochenschr., 1910, no. 23, p. 1091.

Feeble-Minded, under the late Dr. I. N. Kerlin, and later at the Vineland, N. J., School with its founder, the late Olin S. Garrison, whose experience as a clergyman (with a university education) over a large city church made him see this work for the feeble-minded from the viewpoint of a sociologist. He agreed with Dr. William W. Ireland,<sup>1</sup> of Edinburgh, Scotland, that the problem of the condition of idiocy was not as hopeless as most superintendents of institutions would have us think. He aimed to get for that school only children who could be educated to usefulness in the world under guardianship. Being an educator rather than an M.D., he saw the pedagogical side of the work strongest and claimed that the field of work should be in the hands of *educators*, the medical specialists to be called in as needed.

The influence brought to bear by these two men, the one a well-trained physician and a follower of Dr. Seguin and his methods and the other an educator and sociologist, gave me the desire to push ahead and try to get at some of the roots which make for feeble-mindedness and insanity. Elwyn and Vineland in my time had the epileptic and the paralytic types of idiocy included.

Having had a broader education to start with than the teachers then in those institutions, I was interested in experimental pedagogy and though at that time I had but little book knowledge in genetic or educational psychology, as to-day may be found at Clark University and elsewhere, I unknowingly used methods with the children who came my way which would be considered quite up-to-date to-day. School gardens, then hardly heard of in the United States, did much for nine boys "too bad to be kept at the State Reform School" and so sent to Vineland. Work with tools, to-day called "Sloyd," though the work we did was modified, having the beautiful first, helped many a child to grasp the grade work. Music, used not so much that they play high-class work, for that is seldom attainable, but for what it could do to correct rhythm and train attention and help the child through the ear stage of development. We to-day push children into the eye stage before the hearing has been properly or sufficiently trained, with the result that "they look but do not see," as Seguin puts it. Music has developed the mathematical concept not infrequently in the special child. Music, speech drill and dancing *adapted to each individual child* will produce remarkable results. One well-known superintendent said we were not dealing with feeble-minded children at Vineland. To-day he is doing similar work in his institution.

Dr. Oliver Wendell Holmes pointed out that we must doctor the grandparents in order to correct the physical and mental wrongs of the children. This interested me to study medicine, but the courses in my medical school, one of the best in the United States, failed me in my needs. I heard but little of what I was in search of, as chemistry of foods, the physiology of the child and psychiatry. As the books taught, children

were treated much alike apparently, if they had scarlet fever, measles and so forth, when I went forth to use theory, I found practice quite another thing, and was attracted to the fact that a highly sensitive child did not need as large doses as some others.

This interested me to study the nervous child,<sup>2</sup> and I found these could be classified; namely, that *normally* nervous children made for our best citizens, and though fatigued by school work, the night's sleep makes the child ready for the next day's work. But another child, more numerous by far, came to light. These children were decidedly problematic both when ill and when in school. These children made rapid change from one mood to another. Intensity or apathy and indolence were found; perverse and paradoxical reactions to color, smell and taste. Antipathies seemed a class by themselves. Many laughed and cried easily; and anger was easily aroused. There were children who became easily confused or excited. Phobias and imperative ideas often were found; idiosyncrasies toward animals.

The normal child often passes through a stage of fear of animals, and if not carefully cared for, a fright may cause spasms developing true epilepsy. In these abnormally nervous children a little pain causes oftentimes a peculiar tremor. Tests show pain spots more numerous. Nausea and pain go hand in hand in some cases.

Idiosyncrasies of food are found. Others show monophobias; motor abnormalities numerous; heart beats and circulatory difficulties found; often lack of attention; hysterical symptoms, hyperesthesia, backache, headache, intolerance for certain foods.

As many boys as girls showed hysterical symptoms. This is also true for the feeble-minded. These children with hysterical symptoms show manifestations in urogenital sphere. They sleep badly. Their curve of sleep differs from the normal child. It takes longer for them to reach to the point of soundest sleep, and often after they have fallen asleep a peculiar tremor may be felt if the hand is placed on the large muscles of the body. The hands of these children are interesting.<sup>3</sup> We know that the hands of dementia precox are characteristic, showing marked signs of degeneracy.

Many of these children show hands which it would seem were on the road to this hand of the child with dementia precox. Again we find hands with the nails badly bitten, and all cases give Dr. Warner's nerve sign. The above points were brought out by returns which came from questionnaire which I sent out from Clark University in 1905-6, and from data collected since from visiting public and private schools.

Dr. Oppenheim and others have pointed to these neurotic children, and Bosnia, in his book, "Nervose Kinder," says, "Wrong education is a most powerful factor in the causation of psychogenic troubles. If through wrong education,

<sup>1</sup> The Mental Affections of Children. Blakesbee & Co., 1898, Philadelphia.

<sup>2</sup> Not feeble-minded.

<sup>3</sup> A Scientific Study of the Hand. B. C. Downing, Thesis, Clark University, 1910.

moods are not suppressed, good habits not established, training of will power neglected and the imagination allowed to run riot, we are in great danger of cultivating the neurasthenic soil on which all sorts of psychogenic affections grow."

Having given a year to work in an insane hospital, and a course in psychiatry under Dr. Edw. Cowles, I was interested to trace many insane cases back to childhood, and invariably I found an unstable childhood. I could find no studies at that time in the literature along this line, and for want of time have never been able to make a scientific report of this research. However, the facts have been carefully sought out, and a recent book "Social Psychology,"<sup>4</sup> by Samuel G. Smith, gives the following, which adds weight to my findings.

Dr. F. Lang, of Denmark, found that 44 related families in twenty years had sent no less than 77 patients to the insane asylum. In the same families 358 serious neurotic cases had appeared in one form or another in a few generations, from which he argued the evil effect of the first neuropathic woman, the founder of the breed.

"Further investigation showed some strange facts about these families, for in them there appeared besides the 77 insane persons an unusual proportion of gifted men and women. There were 2 cabinet ministers, 1 foreign ambassador, 3 bishops, 3 generals, 3 admirals, 9 university professors, and a large number of public officials, no less than 44 poets and artists, most of whom were known throughout Denmark. In 28 families there were 72 individuals who secured prominent positions through special intellectual ability."

"It is a problem in social mathematics whether it would have been expedient to kill off the first neuropathic person, even though by this means the 77 insane patients be prevented. Doubtless many persons insane or markedly neuropathic might be eliminated from the race to its advantage, while people of superior talent, however, are not so numerous that they can be easily spared. On the other hand, *there is little doubt that proper medical care of the 77 in childhood, and a proper regulation of their lives, would have saved them from the asylum.*"

At Clark University I found what I had failed to find in our medical schools, though "the child is father of the man," and repeats the history of the race.

It would seem that the medical schools should deal scientifically with the child. They should know types of childhood and what they stand for. We are hearing to-day much of *preventive medicine*. We find "ungraded classes" in our public schools, but fail to find the visiting physician who knows what is needed in these classes because he has not been trained in child study (genetic psychology), or abnormal psychology, and knows little or nothing of psychiatry; and because these children were forced upon me I am specializing in the upbuilding of neurotic children

such as I have described. I not infrequently live from a week to a month in the home of a child, so that I know its needs.

Every thinker upon social questions and every worker in social problems must, sooner or later, face the question of heredity. There can be no science of eugenics until there is some agreement as to what part of the history of the individual is predetermined by his ancestry. The term "heredity" has been used in the loosest ways possible. Sometimes it means the influence of the immediate parents and sometimes the direct line of ancestry, and some theorists find it necessary and interesting to group together the collateral branches of the various families under consideration. That there is an inheritance from parents and other ancestors more remote, there can be no question, but what necessary influence that inheritance has upon the future of the individual is not so easy to settle. When Dr. Galton says that the "science of heredity" is concerned with *large populations* rather than with individuals, he practically gives up the case for all the specialists who base character and conduct upon *the immediate ancestry*.<sup>5</sup>

Recent investigation seems to indicate that a change of *environment*<sup>6</sup> may affect coming generations in certain ways, even when it produces no visible effect in this.

The attempt made in France between 1850 and 1860 to discover the families having criminal tendencies by a study of the persons tried, with special reference to finding out how many of them belonged to families of which some member had been previously convicted, was well known to those who were pioneers in the work for the feeble-minded. In 1895 Prof. E. R. L. Gould gave a paper on the "Statistics of Crime" (details of this research in France) before the National Council of Charities and Correction.

*This attempt in France was abandoned after ten years' experience because the study was found to have no scientific value.*<sup>7</sup>

No other country has more complete police records than France, and yet during the entire ten years the investigation only showed a range of from twelve (12) to nineteen (19) per thousand with criminal ancestry during each year.

The lowest per cent was about the same as the proportion of persons tried to the entire population. The conclusion arrived at was it would be necessary to kill off all Frenchmen in order to destroy crime in France.<sup>8</sup>

Drs. Seguin, Kirkbride and others of their day were familiar with this research done in France, and Kerlin pointed out that criminals were feeble-minded, sufficiently so that they could not fit into the work of the world. Tramps, drunkards and most of the human woes of things social he traced to this "class of humanity," twenty-five years ago.

Charles Darwin may learn important lessons

<sup>5</sup> F. Galton: "National Inheritance," chapter 4, pp. 35.

<sup>6</sup> Woodruff, Chas. F.: "Tropical Light and the White Man." Publishers, Rebman Company, New York, 1905.

<sup>7</sup> Italics the author's.

<sup>8</sup> Samuel G. Smith: "Social Psychology." Macmillan, 1911.

<sup>4</sup> Publishers, Macmillan, 1911.



from pigeons and from pigs, and a brood of lesser men may talk about human marriage in the terms of the stock farm, but the men and women who are studying the problems at close range will more and more study them in terms of *social psychology*. Neither heredity, environment nor personal choice alone will explain the facts of social life. One of the most significant statements of Mr. Dugdale in "The Jukes" (p. 55) is, "*The tendency of heredity is to produce an environment which perpetuates that heredity.*" This seems to be largely overlooked, by the present students of heredity in man, who stand for eugenics in the United States.

The pioneer workers in the field of the feeble-minded and insane in the United States were influenced by this statement of Dugdale, which is backed by two significant facts: "*One pair of the Jukes family moved away from the original home, and in the new neighborhood the children developed fairly well. One of the women who was both a harlot and a criminal died in the poorhouse leaving a daughter a year old. The child was adopted into a normal family and lived a normal life.*"

This side of the story of the Jukes needs to be better known. Let us have *preventive education and preventive medicine* working hand in hand.

Open-air hospital schools for neurotic children are a need in our cities, to be a part of our school system. This should have financial aid from parents, philanthropists and the state.

### Clinical Department.

#### TWO CASES OF PRECOCIOUS CEREBROSPINAL SYPHILIS, ONE OCCURRING AFTER SALVARSAN, THE OTHER WITH POST-MORTEM FINDINGS.

BY A. MYERSON, M.D., ST. LOUIS,

Resident Neurologist, Alexian Brothers' Hospital, St. Louis; Assistant, Neuro-Pathology, St. Louis University.

CASES of precocious cerebral and cerebrospinal syphilis, the term applied to syphilitic disease of the nervous system occurring shortly after infection, are not very uncommon. In the American textbooks on syphilis and neurology, the subject is very scantily treated, as, indeed, is the whole matter of cerebrospinal syphilis, more space and consideration being granted to the system diseases. These latter are, on the whole, much less common, are incurable, and their early diagnosis is a matter only of academic interest, while the early recognition of cerebrospinal syphilis often carries with it the life of the patient, since prompt energetic treatment brings at times remarkable results. Therefore, the two cases here reported are important because of the intrinsic importance of the subject; but they have added interest because the first followed shortly after an injection of salvarsan, while the second came with an indefinite history of taking arsenic and gave very marked post-mortem findings.

\* Italics the author's.

CASE I. The patient, a robust young student of twenty, developed a chancre about April 1, 1911, three weeks after a suspicious intercourse. The secretion of the lesion contained spirochetes, and on April 20, .6 gm. of salvarsan was injected into a vein of the arm. There were no immediate sequelæ and none of the usual secondary symptoms, — rash, mucous patches, sore throat, etc., — has appeared at any time since injection. The absence of secondaries cannot be attributed to the "606," since probably in many more cases than is generally realized there is complete lack of these symptoms.

About the first of May the patient, apparently in his usual good health, noticed that his heels and toes became very sore after playing baseball, a symptom which did not arouse him into consulting a physician, although it persisted until the middle of June. About the middle of May he began to be troubled by headaches, at first mild and transitory, but later very severe, very frequent and of protracted duration, lasting as a rule from four in the afternoon until midnight and later. These headaches were generally frontal, sometimes occipital, and often accompanied by an intense, intolerable pain in the back of the neck, — a classical sign. With these headaches came a blurring of the vision, at times so marked as to be almost blindness. This alarming symptom made him consult an oculist, who found nothing ocular to account for either the headaches or the ocular trouble, and referred him to a rhinologist. By this time the patient had lost all interest in his work, was very easily fatigued and complained of dizziness, manifested on arising from a stooping position. The rhinologist shrank the nasal mucous membrane and advised him that an operation would be necessary.

On the afternoon of June 20, the patient arose from a nap and found that he was unable to stand or talk, and that his whole left side was numb and remained so despite the rubbing administered by his friends. The weakness and aphasia, however, quickly disappeared. He went at once to the rhinologist and was immediately referred to Dr. Wm. W. Graves, who examined him in the presence of the writer.

*Physical examination.* — Splendidly developed young man, 5 feet 11 inches tall, 200 lb. Skin and mucous membranes pale. Gait and station O. K. Scaphoid scapulae (Graves).

Peripheral arteries soft, heart area normal, sounds clear, no murmurs, no accentuations. Blood pressure, 120. Lungs, abdominal viscera, negative.

Pupils slightly irregular, left more so. Right slightly larger. React well to light, consensually and to accommodation. Motor cranial nerves otherwise O. K. Hearing good.

Reflexes of arms: Left greater, including radial, triceps, biceps and ulnar triceps of Bechterew. Reflexes of lower extremities very active, equal. Very easily exhaustible left ankle clonus. No Babinski, Gordon, Oppenheim. Abdominal reflexes, 0; cremasterics, right greater.

Hypalgæsia: Left side tongue, left lower face.

Large indurated scar, between meatus and frenum of penis. Scar in bend of left elbow, site of salvarsan injection.

Mental condition alert but anxious.

He was at once referred to the Alexian Brothers' Hospital. His first night there was marked by a very drowsy spell, with stupor, monosyllabic answers to questions, pulse-rate of 50 and irregular heart action.

June 21, optic disks irregular in outline and show slight edema. Lumbar puncture performed — fluid clear, under rather high pressure, marked Nonne Appelt reaction and lymphocytosis, Wassermann

reaction in spinal fluid and blood serum, thus making up the four reactions, "Vier Reactionen" of Nonne, — lymphocytosis, Nonne Appelt, Wassermann in blood and Wassermann in spinal fluid.

Even before the laboratory tests thus confirmed clinical evidence, he had been placed on injections of mercurial salicylate, the diagnosis of precocious cerebral syphilis being without any question. The marked and immediate recession of the symptoms was paralleled by the disappearance of some of the physical signs; e. g., the pupils became equal in size, the abdominal reflexes returned, although the right was the greater, and the sensory loss disappeared.

In August the patient went home for a short stay. He probably neglected his treatment, for on Sept. 14, 1911, he returned with the complaint of moderate headache and double vision upon looking at objects at a distance. Fundus examination showed a marked edema of the disks. He was at once placed in bed, Hg. injections and K. I. administered, and in a month he so far recovered that he felt in no wise sick. At present, except for fatigability and occasional very slight headaches, is subjectively in normal health. His disks are normal.

One of the interesting features of this case was the transitoriness of certain physical signs. Sensory loss is often fugitive, but it is seldom a neurologist sees pupils change in relative size before his own eyes, as happened more than once in this case, and it is not often abdominal reflexes reappear so shortly after disappearing, as in this case.

**CASE II.** In the second case the patient, a young married man of twenty-eight, was brought to the Alexian Brothers' Hospital by a friend on June 27, 1911. The statement made was that the man had contracted syphilis extra-maritally less than a year before and that he had been regularly taking some arsenic preparation, not salvarsan. The meager history given was that for one month he had been acting queerly, seemed confused, had indefinite delusions, was rapidly losing his strength and vigor and complained a good deal of headache. During one short fairly clear interval the patient himself stated that he had "numb spells" in his legs and arms, particularly on the left side, with occasional dizziness. Lately he had lost control of his bladder and had no sexual power for the last two months.

Examination, June 27: Medium height, moderate musculature, pale, dull and depressed looking, with marked negativism at times. Scaphoid scapulæ.

Walks unsteadily; there is, however, no foot-drop or evident spasticity, gait being weak, slow, with the left leg lagging behind the right. Station not tested, owing to patient's mental condition.

Heart area normal, sounds clear, no murmurs, no accentuations. Arteries at wrist slightly palpable, pulses equal, regular, synchronous, systolic blood pressure 120.

Lungs and abdominal viscera negative.

Pupils: Right smaller than left as 3:4, both irregular, react in every way normally. Ocular movements O. K., tongue protruded straight, motor otherwise cranial nerves intact.

Reflexes: Arms equal, very lively, including ulnar triceps of Bechterew; knee reflexes equal; ankle jerks lively, no Babinski, Gordon, Oppenheim; skin reflexes very weak and easily exhausted.

Indurated scar on dorsum of penis. No residuals of secondaries.

Jerky twitchings in hands, arms, chest, — bilateral

but more marked on left. Muscular strength universally diminished; apparently some loss of muscle sense in left extremities, although mental condition of patient makes exact examination impossible.

Mentality: Stupor, disorientation, inability to comprehend questions or to carry out orders.

June 28: Lumbar puncture performed — bloody fluid obtained, patient struggled. This blood, of course, made the fluid obtained of no value for diagnostic purposes.

June 29: During early part of day patient was much brighter than on admission, but towards night he became very dull and drowsy. At 7 P.M. the writer was called to see him.

Unconscious, sweating profusely. Left side of body held rigid and remained so without change throughout the remaining five hours of life. The right side remained still and flaccid except for four short periods, when with the face suddenly cyanosed, the head drawn to the left and the eyes rolled upward, the right leg and arm were furtively and irregularly moved to and fro.

After one of these the patient suddenly stopped breathing. For four hours artificial respiration was administered, together with powerful stimulation, but the man never again breathed by himself. After the artificial respiration was stopped the heart continued to beat for twenty minutes.

Autopsy held eight hours after death. Only the brain and a small portion of the cord were permitted to be removed. The cord presented to the naked eye some slight thickening of the membranes and an injected appearance. The brain was of medium size and very soggy. The dura was not adherent. There was a marked excess of sero-sanguinous fluid in the basal spaces. The large vessels were, perhaps, slightly thickened and no thromboses of any of these could be found. The right hemisphere was much softer to palpation than the left, and when opened there was a considerable amount of fluid slightly tinged with red that escaped. The ventricles throughout the right side were dilated and the adjacent structures showed patches of disintegration. Smears from spinal fluid and from different parts of the brain and cord were negative. Cultures were negative. This was done to rule out the possibility of an infection in lumbar puncture.

*Microscopic picture.* — The cord presents throughout the meninges a marked infiltration, consisting mostly of lymphocytes, with also a few plasma cells. This infiltration is in general grouped around the blood vessels and lymphatics, although here and there a clump of cells may be seen whose relations to the vascular system cannot be ascertained. (Fig. I.)

Many of the arteries, especially the medium sized ones in the pia, are much thickened and filled with thrombi, post mortem in origin. The thickening affects mainly the adventitia, though the intima in most of the vessels is also increased in amount. The adventitia in many cases shows a remarkable infiltration with the same cells that surround the artery and, occasionally, the intima is likewise affected. That the exudate does not come from within the blood vessels is proven by the fact that there are practically no similar cells within their lumina.

The periphery of the cord shows an infiltration of the same character, although of much less intensity, as that in the meninges, and, in fact, this infiltration bears a distinct relation to the vessels and septa of the pia as they dip into the cord. The very small capillaries in the gray matter seem increased in number, but they do not show the infiltration so markedly as the larger vessels.

The central canal cannot be discovered; in its stead is a disorganized group of what are evidently its lining cells, together with lymphocytes and cells that resemble neuroglia.

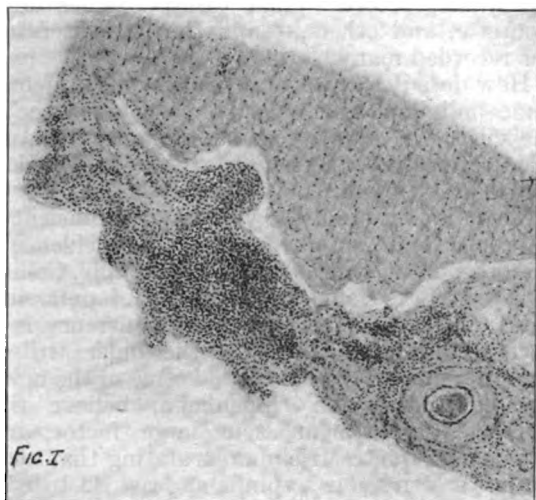


FIG. I. Showing marked pial infiltration and thickened artery, with peri-arterial infiltration (toluidine blue).

The nerve cells, both the large motor and those adjacent to the central canal, show changes. These changes can be described as belonging to two types. In one, evidently the less damaged, the chromophilic granules are coarser and deeper staining than usual, while the outlines of the cell are fairly well preserved. In the second the nucleus has lost its outlines, the cell is shrunken, its chromophilic granules have disappeared and in many cases the cell is being invaded by small, apparently phagocytic cells.

The neuroglia is increased in amount.

As a striking example of the early appearance of changes in the spinal ganglion cells, accounting, perhaps, for the "root" pains, is the picture in the case of this individual. Throughout the ganglia there seems to be an increase in the fixed tissue cells, but here and there occur areas of dense infiltration by the same types of cells as above described. (Fig. II.) These areas are most numerous near the periphery of the ganglion.

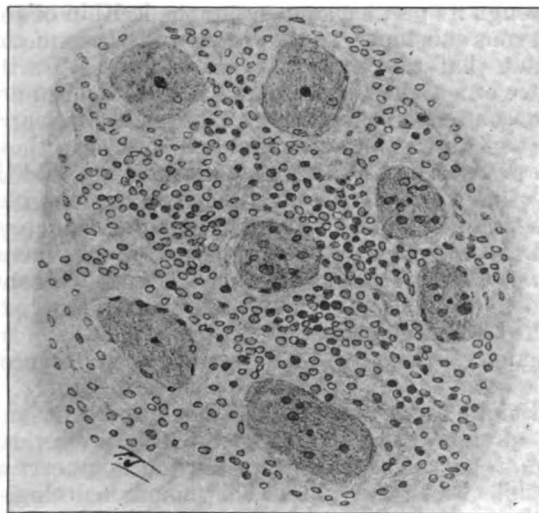


FIG. II. Part of spinal ganglion, showing infiltration (toluidine blue).

The medulla shows the same picture as the cord, as, indeed, do all the basal structures. There is this difference, however, that the thickening of the intima and the infiltration is greater than in the cord, and in several places in pons and medulla there is almost entire obliteration of the lumina of the vessels. (Fig. III.) The elastic fibers of the intima are in some instances split into several thin disorganized layers.

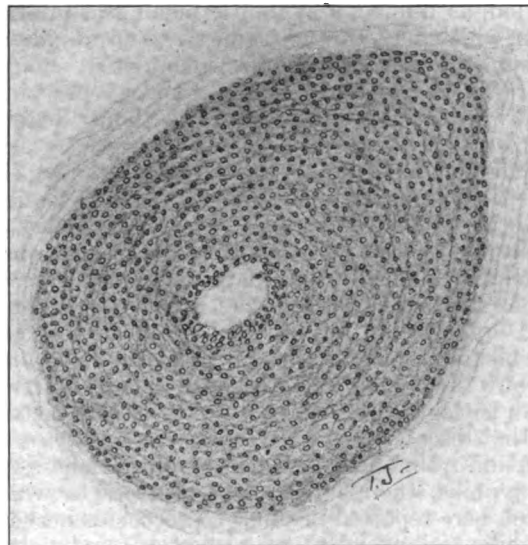


FIG. III. Vessel in pia of medulla, showing infiltration of vessel walls and narrowed lumen (carbol-thionin).

The cortex shows only slight changes, in general there being a much milder meningitis and peri-arteritis than in the cord. The structures in the interior of the right hemisphere, where the intensest destruction occurred, stain very poorly and seem to have disorganized almost without reaction. The small vessels — and arteries — show the same general picture as in the cord.

Weigert stain reveals no distinct changes, there being, perhaps, a destruction of the finer fibers. This would speak for a rather rapid onset of the disease process.

Levaditi stains of cord and brain revealed no spirochetes. This was distinctly contrary to expectations since the terrific overwhelming of the patient by the disease led the writer to believe that the spirochetes would be found somewhere in the nervous system. In general, the pathological picture is that of a peri- and end-arteritis with a meningitis. Typical gummata are not present, although in places there is some resemblance to very small gummatous processes.

It is possible that the lumbar puncture, by changing the pressure conditions within the nervous system, caused an intense reaction with a marked increase in the secretion of the spinal fluid. That this may account for the destruction in the vicinity of the ventricle is evident, but the clinical picture presented by the patient upon entrance, and the marked arterial changes upon section, clearly indicate that the end cannot be ascribed to the lumbar puncture.

It is the general impression among medical men that nervous syphilis is a comparatively late luetic manifestation. This impression probably dates to the epoch, still extant so far as many textbooks are concerned, when visceral syphilis

was looked upon as a tertiary manifestation; whereas modern investigation shows that many of the organs may be affected together with the cutaneous manifestation, or, as in the first of these cases, without the occurrence of any secondaries. In fact, some authorities, notably Lang and Mott, consider the pain, disability and mental torpor, so frequently associated with the eruptive period, as due to a syphilitic meningeal infiltration, which may, through some stress or prejudicial circumstance, cause definite meningitis. Boidin and Weil report that a study of the cerebrospinal fluid in the secondary stage without definite nervous symptoms often shows a lymphocytosis, a clear demonstration of the frequent involvement of the nervous system. Fournier, in his classical "*Leçons Cliniques sur la Syphilis*," describes in great detail the nervous manifestations quite regularly found in "secondary" syphilis, — headache, dizziness, paresthesiæ, areas of analgesia and hypalgesia, torpor, etc. For this author syphilis is a general affection, and the rash, etc., is but little more the entire secondary picture than is the rash in scarlet fever the entire picture of that disease.

Aside from these nervous manifestations early in syphilis, there is the class of cases to which those here reported belong, — precocious nervous syphilis, — in which there are alarming and violent manifestations associated with definite clinical signs of nervous disease and having definite pathological features. The incidence of these cases is important, and here are quoted a few of the more authoritative figures on the subject.

Mott states that one fourth of the cases of cerebrospinal syphilis start within two years after infection and bases his conclusion on forty cases. Lang, in a collection of one hundred cases, states that fifty occurred within one year. Beaudoin, in Fournier's clinic, collected thirty-six cases occurring within one-half year. H. Löhe states that 48% of the cases start within one year after infection. Nonne quotes approvingly the statements of Heubner, Rumpf, Charrière and Klippel that these cases are common and that a large but variable percentage occur within the first year after infection.

Oppenheim, after quoting the statements of many of the older writers, declares that syphilitic disease of the nervous system *starts* not only within the first year, but even within the first half year following infection. He goes on to state that this affection of the nervous system not only occurs more frequently than before but yearly tends to occur earlier. Finally, he quotes with reserve Hjelman as stating that fifteen to twenty-five in every one thousand syphilitics acquire cerebral or cerebrospinal lues.

The pure spinal form is, on the whole, much less frequent than the pure cerebral and occurs as a rule later (Gilbert and Leon, Williamson). The combination appears not infrequently.

A few examples of the extreme precocity of some of the cases will suffice. Boidin and Weil report a case where an eighteen-year-old patient had chancre about the middle of June and July

15 showed first symptoms of meningitis. Mott records cases occurring within two months. H. Löhe writes of a man who had syphilitic hemiplegia three weeks after the infection. Some of the old writers record similar cases, — Gilles de la Tourette, and others, — and the later literature has recorded many.

How does it happen that the nervous system of some individuals shows such poor resistance to the virus — is so early and profoundly affected? This interesting question has been answered in various ways by different men.

There is first of all the view that insufficient or improper treatment accounts for the incidence of cerebrospinal syphilis. Thus, for example, Collins, of New York, claims that the use of potassium iodide instead of the proper drug mercury is in part responsible. Most of the older writers, Rumpf, Fournier, Heubner, and some of the newer ones, Hjelman and Oppenheim, believe that insufficient treatment is a large factor, and Oppenheim quotes Hjelman as stating that of all his cases of nervous syphilis at least 82 to 85% had a very limited, if any, mercurialization. This fact would have more weight if it were not equally true of *all* cases of syphilis, since very few receive proper treatment.

On the other hand, Mott, Nonne and Maurice declare that many of their cases had a very thorough treatment with mercury, and there are cases on record where nervous syphilis developed with the patient under active treatment. This nihilistic view is hard to reconcile with the fact that mercury *seems* to help nervous syphilis; it may be that we underestimate nature's help in these cases.

The precocious case of nervous syphilis must have other factors in its causation, since it occurs at a time when most of the infected and non-treated individuals show only disfiguring cutaneous lesions. The influence of excessive alcohol plays a rôle in the minds of most of the authors second only to trauma. That syphilitic gummata develop at an injured spot is an established fact since Virchow's day. And it may be that alcohol, through its peculiar affinity for the lecithin of the nervous substance, so lowers the resistance of the tissue that the virus of syphilis elects it as its place of activity. But trauma and alcoholism are too common in syphilitics to account for early nervous disease in any individual, and so to these the third factor of neuropathic heredity is added. By this is meant the occurrence of nervous disease, non-syphilitic, such as hysteria, epilepsy, etc., in the ancestors and collateral family members. On this relationship Nonne, Oppenheim and Mott, especially the first, lay stress. How so-called functional diseases — those which have no organic pathology — can predispose to organic disease is left unexplained by these observers.

Before further discussing this important gap in our knowledge of the neuropathic predisposition, the opinion of Oppenheim regarding nervous syphilis is of great value. This famous neurologist believes that the nervous system is becoming yearly more and more the "*locus minoris re-*

*sistentiae* " to syphilis, that severe manifestations of the cutaneous order are becoming less frequent, and that in equal measure with the non-occurrence of secondaries is the increase of nervous syphilis. Certainly, the non-occurrence of the awful pictures of the older writers cannot be ascribed to changed treatment, since up till the use of "606" it had not changed. And it is the opinion of most neurologists that the parasyphilitic diseases, tabes and general paresis, which seem to be on the increase, are not the sequelæ of violent syphilis, but rather of non-florid, occult syphilis.

To explain both the influence of the neuropathic predisposition upon the liability to organic syphilitic disease, and the increasing vulnerability of the nervous system to syphilis, the work of Graves is of the highest importance. This observer was led by his studies of the anomaly he has named the "scaphoid scapula" to far-reaching conclusions. First, he found that individuals having scaphoid scapulæ were defective in many ways, most notably that they had early sclerosis of the arteries; were more vulnerable and more liable to all sorts of diseases, and especially that they formed the vast majority of neuropathic individuals. This fact at once lifts the neuropathic diseases from the plane of functional to that of organic diseases. Secondly, a careful study of the parents of such persons revealed that if their scapulæ were of the average type, syphilis would be found in one or the other; conversely, in the case of individuals who had contracted syphilis and later begotten children, the progeny almost invariably had scaphoid scapulæ, no matter what type of scapula the parents had. Thirdly, if an individual having scaphoid scapulæ contracted syphilis, the disease, as a rule, ran a benign course so far as its skin manifestations went; but amongst tabetics and paretics, as well as those suffering from the syphilitic affections of the nervous system, there was a disproportionately large number who had scaphoid scapulæ.

These observations corroborated by the few who have seriously investigated the matter, notably Kellner and Kollert, and also by many studies of the present writer, point one way, — the race is becoming syphilized and in this process the skin and the bones are gaining resistance, while the blood vessels and the nervous system are becoming less resistant. The individual with a direct syphilitic ancestry, as is indicated by the presence of the scaphoid scapula and some of its correlations, is more liable to all forms of nervous disorder, functional and otherwise, and is especially liable to nervous syphilis, often without ever having knowledge of skin manifestations. This is the conclusion of Graves, expressed in his writings and in many discussions with the writer.

This antagonism of skin manifestations to nervous syphilis is borne out by a development of recent years: the effect of salvarsan upon the cutaneous manifestations is little short of magical, while its effect upon the nervous manifestations is, in the opinion of many, little short of diabolical. Even the distinguished scientist to whom it owes

its being discouraged its use in syphilis of the nervous system, and among the many corroborations of the wisdom of this is the report of E. Finger which, in fact, goes so far as to discourage the use of salvarsan in any case. He had as many neuro-recurrences in five hundred salvarsan patients as Mauriac had in one thousand mercury-treated patients! He states that neuro-recurrences occur in 4% of his patients with primary and tertiary syphilis, while of those with secondary syphilis treated with salvarsan, 12% had neuro-recurrences! Exceptional or not, this experience shows the inverse relationship existing between cutaneous manifestation and the tendency to nervous syphilis, for the drug that has so powerful an action upon the skin changes may, certainly, exert a deleterious action upon the nervous system.

It is not the intention of the present writer to discuss the pathology of cerebrospinal syphilis. That is splendidly treated in the monographs of Mott, Nonne and Oppenheim, as well as in the various textbooks of pathology. The changes present are usually gummatous, arterial and meningeal in their origin, and the fatal case, as Mott says, is usually kaleidoscopic in its pathological picture. Nonne states that in practically every case the blood vessels are affected. In fact, most of the authors regard the change in the blood vessels as the earliest manifestation of syphilis and the one upon which the first symptoms depend.

In this connection the remarkable case of Strassman deserves extended notice. For a long time the pathologists have been divided into two camps regarding the endarteritis of syphilis. As is well known, Heubner believed that the changes occurring in the intima, and which he believed to be specific in character, were the result of a primary irritation of the intima, and that the infiltration of the other coats, notably the adventitia, were secondary. Prominent amongst those who opposed this view were Friedlander and Baumgarten, who took the stand that the endarteritis was not specific and, moreover, that it was a secondary change and due to a primary process in the adventitia with vasa vasorum and the lymphatic sheaths as the probable starting points.

Strassman's case, although an isolated one, brings convincing confirmation of the latter view. Staining his brain sections in a case of fatal early cerebral syphilis by Levaditi's method, he was able to demonstrate the distribution of the spirochetes in the vessel walls. The main groups, enormous collections of the organisms, were found in the outer sheaths of the adventitia and the lymph sheaths, and, in the case of the larger vessels, in the walls of the vasa vasorum. Smaller groups were massed in the adventitia and often in relation to the inflammatory exudates. In the media, near the elastica, the spirochetes were much less numerous than in the adventitia, while in the intima swelling only a very few were found. The lumina of the vessels contained no organisms.

In the opinion of the reviewer of syphilis in the *Jahresbericht der Neurologie und Psychiatrie*, Siefert, this demonstrates that the toxin has its start-



ing point in the walls of the vasa vasorum and lymph sheaths and that the intimal changes are secondary. He further states that the marked predilection of the virus for the nervous system is due to the fact that the arteries of the brain have to their smaller branches vasa vasorum and are surrounded by lymph sheaths and the spirochetes are especially dependent upon the lymph stream for their multiplication.

Regarding the treatment of precocious nervous syphilis it can be stated that rest in bed and mercury work very well with the majority of cases, if early diagnosed. In the light of Finger's report, as well as the isolation cases mentioned in the literature, the use of salvarsan is to be deprecated, except in those cases in which mercury and the iodides are seen to be of no avail and where a fatal ending seems otherwise inevitable.

The writer takes this opportunity to thank Dr. Wm. W. Graves, the visiting neurologist to the Alexian Brothers' Hospital, for very generous help in procuring the literature on the subject as well as for the privilege of reporting these cases, both of which occurred in his service. For the drawings illustrating this paper the writer wishes to express his obligation to Dr. Ralph L. Thompson, pathologist to St. Louis University, and to Mr. T. Jones, the artist of that school.

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### Reports of Societies.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

MEETING OF WEDNESDAY, JAN. 10, 1912, AT 8.30 P.M.

THE President, DR. C. B. LONGENECKER, in the chair.

#### SYMPOSIUM ON CORRELATION OF SPECIAL DISEASES AND GENERAL SYSTEMIC AFFECTIONS.

#### CONCERNING CERTAIN INFECTIONS AND INTOXICATIONS AND THEIR OCULAR SYMPTOMS.

By DR. GEORGE E. DE SCHWEINITZ.

DR. DE SCHWEINITZ, after referring to the intimate anatomical and physiological associations which the eye has with the great systems of the body, and after making brief reference to the predominant influence of syphilis and tuberculosis in many ocular disorders, now much more readily recognized than in former times on account of the accuracy of tests which are available, and after referring to the value of tuberculin in the treatment of these disorders, when these tests demonstrated that they were of tuberculous origin, discussed,

first, the various types of ocular disorders which depended upon diseases of nutrition, particularly those which have relationship to the various types of chronic rheumatism, osteitis deformans, arthritis deformans and gout. He then referred to the distinguishing characteristics of this group of cases and compared them with those caused by the late gonorrheal infections, and referred to the importance of establishing a differential diagnosis, and to the value of bacterin in the treatment of gonorrheal inflammations of the uveal tract. He next discussed the relations of the so-called intoxications to the production of optic nerve diseases, describing especially the toxic amblyopias and the probability that the lesions depended not alone upon the evil influence of the abuse, for example, of tobacco and alcohol, but upon the effects of these drugs in creating chronic intestinal catarrhs, which in their turn were influential in fostering the optic nerve disease. He next discussed at some length the enterogenous infections, pointed out the differences between auto-intoxication and auto-infection, and referred to the value of thorough analyses from the standpoint of physiological chemistry, and of thorough study of the metabolism in determining the etiological factors which were potent in bringing about certain relapsing and chronic uveal tract diseases which modern tests showed were not due to the usual infections, namely, syphilis and tuberculosis. He made an analogy in the next portion of the paper to the infections which passed through the tonsils and the pharyngeal ring, creating in distant portions of the body adenitis, arthritis and obscure abdominal affections, with similar infections passing through these areas and causing ocular diseases, and incidentally discussed the importance of disease of the gums and caries of the teeth in their relation to eye affections. He made an earnest plea for a more thorough study, particularly of the relapsing uveal tract diseases and optic nerve affections, than was often accorded to them, and believed that the duty of the doctor to his patient was not performed unless the same care in investigation was given to these ocular diseases as the internist gave to any obscure general condition, and insisted upon the necessity in any case of doubt, of calling in the aid of the internist, the rhinologist, the physiological chemist, the dentist, as the case required.

DR. AARON BRAV: There are certain cases of affections of the uveal tract in which we cannot find the cause even with repeated examinations. We have sometimes to rely upon empirical treatment. I think the word "auto-intoxication" is not always wisely used. The conditions we ascribe to auto-intoxication are often pre-albuminuric in nature, and repeated urinary examinations are essential. If, upon examination, we find albumin or casts and indican, we should think of nephritis. The therapeutic test is not always final. There are some diseases that follow a certain course, no matter what therapeutic agent is employed. They will proceed until the acme of the disease is reached and then decline without being influenced by any special remedy. We have, sometimes, cases of diabetes in which the only symptom is paralysis of the external ocular muscles. I have such a case at present under my care where there is a total paralysis of the ocular motor nerve associated with paralysis of the abducens, there being no other symptoms, while the urine in repeated examinations showed a large amount of sugar.

DR. S. LEWIS ZIEGLER: These infections are not always of one specific character. I have personally seen a case of mixed infection, tubercular and syphilitic, in which the lesion existed for nine months before yielding to tuberculin injections. We must not forget



that there are perversions of metabolism localized in the internal secretions, that there is a large chemical laboratory producing irritating substances which are distributed through the system. These conditions must be met and their proper treatment instituted.

#### THE RELATION OF EAR DISEASES TO SYSTEMIC AFFECTIONS.

DR. B. ALEX RANDALL: Diseases of the "special" organs are constantly coming to the general practitioner, and the function of the specialist is largely to "blaze the path" for the profession. Ear diseases are common, constituting 2% or more of those met in general practice, — at the University of Pennsylvania always 5% of the work of the hospital. Since the gripe endemic they are oftener matters of life or death; while more than half are already chronic when they come instead of earlier having received adequate care. Yet their treatment is not in most cases beyond the powers of the family physician. Nor do the results justify any pessimistic attitude. General disorders underlie a large proportion of these affections and must be treated as well as the local conditions; and their frequent relation to gripe and the exanthems must be oftener forestalled by hygiene such as protective covering of the ear *before* they suffer involvement. Extreme deafness is often caused by meningitis, syphilis or toxemias. Arteriosclerosis, lithemia or auto-intoxications underlie many cases; and assumptions of heredity may only cloak imperfect study. Extensions from the ear cause many intracranial and septicemic disorders; the bronchopneumonias and bowel infections of children are often associated with or due to tympanic infections; and tuberculosis may have its primary focus, surgically removable, in the ear. Typhoid, diphtheritic and other germs have been found in the ear-discharges of even otherwise indeterminate cases and endanger the spread of these diseases, especially by the light cases. Forming 2% to 5% of mortality, ear disease should receive 1% of the time of the medical curriculum, — forty hours of the four thousand as now allotted.

DR. JAMES H. MCKEE: The fact that the aurist sees so many of the chronic affections shows that many of the more acute cases have been unrecognized, untreated or mistreated. The pediatrician places gripe as probably the most frequent cause of otitis media and next to this pneumonia. In many of the cases of epidemic influenza the pneumococcus is found in the discharge from the ear.

DR. HENRY W. CATTELL: I should like to ask Dr. Randall whether he has had any experience in deafness following the use of arsenobenzol? A number of cases appear in literature stating that "606" has a more or less specific action upon the ear, just as arsacetin and atoxyl have upon the eye. I should also like to ask whether along with hexamethylenamine he has used any of the vaccines for the treatment of ear cases in which the streptococcus, pneumococcus and other organisms, which produce this condition, are to be found.

DR. RANDALL closes: Replying to Dr. Cattell's inquiry, I have been, so far, so fortunate as to see no case in which the use of "606" caused deafness. While some cases have been reported the number is less than I anticipated. The syphilitic cases of the ear are very sad ones. They may yield nicely to treatment for a time, but all too soon they relapse and the outcome is very bad, generally from neglect of treatment. This is true of both inherited and acquired cases. As to mumps, we all know that cases of deafness follow this affection, but they can be counted on the fingers, even by men of large experience. I recall a girl of sixteen whose nearly total deafness followed

mumps and internal ear disease was found, but close scrutiny revealed syphilitic stigmata. Smallpox has given me very few instances of otitis media. The vaccines, other than the tubercular, I have not made much use of, and I am in doubt whether we shall get a polyvalent serum of much value. Thus far they have failed me entirely.

#### CORRELATION OF DISEASES OF THE UPPER RESPIRATORY TRACT AND GENERAL SYSTEMIC CONDITIONS.

This paper was read by DR. D. BRADEN KYLE.

### Book Reviews.

*Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Volume A: Medical. Volume B: General Science. ANDREW BALFOUR, M.D., B.Sc., F.R.C.P. Edin., D.P.H. Camb., Director. London: Ballière, Tindall & Cox. 1911.*

These two admirably designed, beautifully illustrated, expensive volumes are a delight to lovers of good book-making as well as to men of science. They represent the record of work of the staff of the Wellcome Tropical Research Laboratories since the publication of the Third Report in 1908. The functions of these laboratories, associated with the Gordon Memorial College at Khartoum, are officially stated as follows:

- (a) To promote technical education.
- (b) To promote the study, bacteriologically and physiologically, of tropical disorders, especially the infective diseases of both man and beast peculiar to the Sudan, and to render assistance to the officers of health, and to the clinics of the civil and military hospitals.
- (c) To aid experimental investigations in poisoning cases by the detection and experimental determination of toxic agents, particularly the obscure potent substances employed by the natives.
- (d) To carry out such chemical and bacteriological tests in connection with water, foodstuffs, and health and sanitary matters as may be found desirable.
- (e) To promote the study of disorders and pests which attack food and textile producing and other economic plant life in the Sudan.
- (f) To undertake the testing and assaying of agricultural, mineral and other substances of practical interest in the industrial development of the Sudan.

The variety of these purposes illustrates well the range of activity of this valuable institution of research.

After a descriptive introduction, the first volume of the present report consists of a series of thirty-four papers on the results of original research or observations, by the director and seventeen other contributors, chiefly on topics associated with tropical hygiene and sanitation and with tropical diseases of man or animals. All are profusely and effectively illustrated, many of the plates being in colors. There are altogether twenty-three of these plates and one hundred and

eighteen figures in the text. There are also a half dozen miscellaneous notes and a statement of routine work by the Director.

The second volume, which deals rather with general than with medical science, after an introduction and the reports of the chemical and the entomological sections, consists of twelve original papers, similarly illustrated with one hundred and one figures and twenty plates. Of particularly general interest among these papers are one by Dr. C. G. Seligmann on "The Cult of Nyakang and the Divine Kings of the Shilluk," and one by Dr. R. G. Anderson on "Some Tribal Customs in their Relation to Medicine and Morals of the Nyam-Nyam and Gour People, Inhabiting the Eastern Bahr-El-Ghazal." The latter contains considerable account of medical rites and practices among these peoples, and of many of their peculiar superstitious observances which are of great sociologic interest.

Together these two volumes form not only a worthy contribution to the literature of science, but valuable evidence of the work that is being done in discharge of the white man's duty to the aborigine "at his home in the Sudan."

*Differential Diagnosis.* Presented through an Analysis of 883 Cases. By RICHARD C. CABOT, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Pp. 753. Profusely illustrated. Philadelphia and London: W. B. Saunders Company. 1911.

This work is one which deserves special attention from the fact that it is a striking embodiment of the method of case teaching applied to diagnosis. The method employed is the discussion of groups of cases, each group being characterized by the presence of one most prominent symptom. One common complaint or manifestation of disease, such as headache, lumbar, abdominal and other pains, fever, coma, convulsions, vomiting, hematuria, jaundice, etc., is taken up in each one of twenty-two chapters. The relative frequency of occurrence of each of the principal causes of the symptom under consideration is shown by a diagram in each instance, certain facts of special note are mentioned in a few brief preliminary paragraphs, and then follow detailed clinical records of cases with full discussion of the processes by which the diagnosis was arrived at in each. In studying these cases one receives a surprisingly good substitute for personal clinical experience, and the discussions furnish for those whose personal experience is limited excellent illustrations of the reliance to be placed upon the different phenomena of value in medical diagnosis.

*Orthopedic Surgery.* By EDWARD H. BRADFORD, M.D., and ROBERT W. LOVETT, M.D. New York: William Wood & Co. 1911.

To the medical profession of Boston and New England this book needs no introduction and no comment. It aims to be "a condensed handbook, for the use of students and practitioners,

embodying a brief statement of the generally accepted opinions as to the nature and surgical treatment of the class of cases which are grouped under the term of orthopedic surgery." The necessity for condensation has obliged the authors "to omit the presentation and discussion of conflicting views," and to minimize references and bibliographic notes. The book represents the ripened clinical experience of two recognized authorities and leaders in their specialty. It is well and abundantly illustrated with 364 figures in the text. It is concisely and effectively written and presents systematic consideration of orthopedic therapeutics. It should have a wide field of recognition and usefulness, not only among English-speaking surgeons, but through translation into other languages.

*Health and Medical Inspection of School Children.*

By WALTER S. CORNELL, M.D. Illustrated with 200 half-tone and line engravings, many of them original. Philadelphia: F. A. Davis Company. 1912.

This volume represents the results of the author's practical experience in the examination of some 35,000 children, as director for six years of the medical inspection of the public schools of Philadelphia. It is written for physicians, nurses and teachers, and aims to give a comprehensive knowledge of the problems connected with the health administration of school children. Its three parts deal respectively with medical inspection, school hygiene, and the common defects and diseases of childhood considered regionally and systemically. The book is abundantly illustrated. It is the first of its kind, and should prove of value to a large class of physicians, school nurses, teachers and others interested in child-welfare.

*Tuberculous Diseases of Bones and Joints.* By SIR WATSON CHEYNE. London: Hodder & Stoughton. 1911.

This is the second edition of a work by a well-known English authority. In his preface he writes that he has little to alter or add as to the pathology of the diseases, but he notes that operative interference is very much less frequently employed at present than when the first edition of his work was published. This he attributes to the fact that the prognosis of bone tuberculosis is now known not to be so unfavorable as was formerly held to be the case, and considering the joint destruction involved in excision, radical operative interference is undertaken with much more hesitation now than formerly. He considers, however, that at present the pendulum toward conservatism has swung too far, and he attempts to assume a judicial position avoiding extremes. It would appear from his publications that his experience with the details of conservative treatment is not so extensive as it has been with operative procedures.

The book is sensibly illustrated and is of value to all who wish to be familiar with the present opinion of an eminent English surgeon.

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#### DEAN OF THE HARVARD MEDICAL SCHOOL.

THE appointment of Dr. Edward H. Bradford to the position of Dean of the Faculty of Medicine and Dean of the Medical School of Harvard University, as announced in a recent number of this JOURNAL, has received the consent of the Board of Overseers. Dr. Bradford undertakes this new responsibility after a long association with the Medical School as a teacher and member of its faculty. He was graduated from Harvard College in 1869, received the master's degree in 1872, and the doctorate of medicine in 1873. He began his active teaching as assistant in clinical surgery, a position which he held from 1881 to 1886. He then became clinical instructor in the subject with which his lifework was to be identified, orthopedic surgery. From this position he rose through the rank of instructor in surgery, instructor in orthopedics, assistant professor of orthopedics, to that of professor of orthopedic surgery. This chair he has recently resigned through the age retiring rule of the Children's Hospital, where his clinical teaching was largely done, and has been appointed emeritus professor.

While, therefore, Dr. Bradford has given up his work as a teacher, he is perhaps the more ready to devote his time to the exacting work which the dean's office demands. For many years he has been active in the councils of the Faculty of Medicine, and has invariably stood for progress and reform. He brings to his new position an experience ripened by long contact with his colleagues, and by wide knowledge of men and affairs. It is not, therefore, to be questioned that the Medical School will continue the development which has been marked during the four years' service of his immediate predecessor. In fact, Dr. Bradford

has been foremost in some of these reforms, notable among which is the radical rearrangement of the examination system, described by him in a recent number of the *Harvard Graduates' Magazine*.

Although it may with justice be said that any progressive institution is continually in a constructive period, it is none the less true that the development of the Harvard Medical School, particularly in its relation to various hospitals, is in a peculiarly active phase at the present time. Undoubtedly problems, some already recognized and others which cannot be foreseen, will arise in the immediate future, and the school may well congratulate itself that it has as its dean a man wholly capable of dealing, not only with the past, but also in a constructive spirit with the future. The problems of his predecessor have in part been met so far as circumstances would permit and have in part been formulated for the action of the new administration. Many of these are vital to the usefulness of the school as an agent of education in a broad sense. The old questions of how the general practitioner is to be trained, what is to be taught in the short undergraduate period, the relation of specialism to the general body of medical knowledge, and the further question, now assuming a particularly active form, of the organization of post-graduate teaching, together with the ever-present problem of financial administration, are all matters demanding wisdom and judgment of the highest order. These qualities Dr. Bradford undoubtedly has, and all who are interested in the welfare of the Medical School will see in his choice as dean the assurance of continued progress, of a healthily constructive sort.

#### SHAKESPEARE AS A MEDICAL OBSERVER.

It was a wise critic who said: "If you wish to know the heights of human genius, read Shakespeare; if you wish to know the depths of human fatuity, read his commentators." In the teeth of such an epigram, one hesitates to add another iota to the subject of Shakespearian commentary; yet the temptation to do so is irresistible to every one who thinks he has seen something that others have not emphasized. That Shakespeare thus continues to be more commented upon than any other figure in the world's literature is evidence both of the universality of his human interest and of the inexhaustible richness and variety of his genius.

There seems to have been no branch of human

activity or knowledge with which Shakespeare was not conversant. Apart from criticisms and interpretations of the literary and dramatic aspects of his works, extensive essays have been written on his historic and scientific allusions. References to medicine and to allied topics are frequent in Shakespeare. The entire subject of his medical and surgical knowledge was exhaustively reviewed some years ago by Dr. John W. Wainwright. Shakespeare never writes of medicine as such, but rather as it appears incidentally as an element in the woof of life. For this reason his testimony is perhaps the more valuable as affording unvarnished evidence of the status of medicine in his time.

Medicine in the Middle Ages was closely allied to alchemy and necromancy, and in Elizabethan England had hardly more than emerged from that condition. A knowledge of drugs and their compounding, more or less inaccurate, was at least the chief stock in trade of its practice. Moreover, the use of drugs was not confined solely to legitimate medicine. Narcotics were employed, much as they are to-day, for their temporary pleasant effects, and poisons were still not unfamiliar agents in the hands of monarchs and others who wished to be rid of thwarting adversaries. If this were not true of Shakespeare's England, it was at least true of the times and scenes whereof he wrote. Hence there are in his plays many references to poisons and to drugs of baleful or benign properties.

Apparently the medieval monks were often pharmacologists of considerable skill and knowledge. Thus in "Romeo and Juliet," Friar Laurence is introduced as culling herbs and simples and descanting on their dual or contradictory characteristics.

"Within the infant rind of this sweet flower  
Poison hath residence, and medicine power;  
For this, being smelt, with that part cheers each part,  
Being tasted, slays all senses with the heart."

It is Friar Laurence who supplies Juliet with the hypnotic under whose influence she lies as if dead "two and forty hours, and then awakes as from a pleasant sleep." The identification of this drug has of course been attempted by some of the aforementioned commentators, but is of course impossible. Medieval pharmacology was half magic, and the properties of its drugs resided at least half in the credulous imagination of the people. That, however, made them none the less effective for literary purposes.

The poison by which Romeo ended his life is

by no means so difficult of identification. It was presumably and most likely potassium cyanide,

"such soon-speeding gear  
As will disperse itself through all the veins  
That the life-weary taker may fall dead  
And that the trunk may be discharg'd of breath  
As violently as hasty powder fir'd  
Doth hurry from the fatal cannon's womb."

This poison he procures not from Friar Laurence, but from an apothecary, and the episode of its purchase has afforded us one of the finest descriptions and the most unaffected comparison of gold to poison in the literature.

Though medieval pharmacology may have been half primitive alchemy, there is something startlingly modern in the legal provisions regulating drug sale. Apparently the traffic in poisons was capitally banned, for the apothecary replies to Romeo's query:

"Such mortal drugs I have; but Mantua's law  
Is death to any he that utters them."

Perhaps if our penalties were more severe we should have more success in suppressing the illegal sale of opium and cocaine. However, not even fear of death could prevail with the apothecary against the temptation of forty ducats, and his conscience seems to have come no more in question than that of the modern dealer in "dope."

Another strikingly modern suggestion in this play is the reference to quarantine during an epidemic in Verona. Friar John goes

"To find a barefoot brother out,  
Here in this city visiting the sick,  
And finding him, the searchers of the town,  
Suspecting that we both were in a house  
Where the infectious pestilence did reign,  
Seal'd up the doors, and would not let us forth."

The searchers of the town were the local board of health inspectors, and the enforced detention to which they subjected Friar John and his companion cost Romeo and Juliet their lives. The friars' resentment thereat is also not without modern parallel. It is significant that Shakespeare uses the word "infectious" in an age long before the true nature of Asiatic cholera (as the pestilence most presumably was) was known. And in a later line, in response to Friar Laurence's query about his letter, Friar John says:

"I could not send it, — here it is again, —  
Nor get a messenger to bring it thee,  
So fearful were they of infection."

With this quotation should be placed another from Hamlet's interview with his mother, a

passage which is in many respects the most remarkable medical reference in Shakespeare.

"Mother, for love of grace,  
Lay not that flattering unction to your soul;  
It will but skin and film the ulcerous place,  
Whilst rank corruption, mining all within,  
Infects unseen."

Shakespeare obviously had in mind a varicose ulcer, such as he must have seen among the village folk of Stratford, — for such ulcers were presumably as common then as now, — and to it he compares his mother's trespass, a moral ulcer. In his day words were nearer their original meaning than now. "Flattering" meant "soothing" and "unction" was the literal and regular word for ointment, as when Laertes later says:

"I bought an unction of a mountebank."

Shakespeare had doubtless seen varicose ulcers treated, as we treat them still to-day, with some "soothing ointment," and warned his mother against an analogous moral procedure. For his clinical observation had gone even deeper. He had seen, as physicians all see, an ulcer apparently skinned over with a thin film of epithelium, under which, however, infection is still active and ready to break out anew. "Corruption" is still a popular term for pus, and we still technically speak of the margins of an ulcer as being undermined.

Now this passage from "Hamlet" merely illustrates with particular force to a physician what may be equally well demonstrated from any page of Shakespeare's writings, — that he learned less from books than from observation. He had the faculty, which is of as prime importance to a poet as to a physician or other scientist, of seeing accurately and of stating accurately what he saw. This led him often to realize a truth, and even to use a technical word, such as "infect," far in advance of his time. Upon this faculty, upon his human sympathy, and upon his supreme felicity of expression, rests the consummate genius of Shakespeare.

#### METHODS OF TEACHING IN MEDICINE.

In the issue of *Science* for April 12 is published a paper by Dr. C. M. Jackson, of the University of Missouri, on "The Improvement of Medical Teaching," which was read in Chicago, on Feb. 28, at the twenty-second annual meeting of the Association of American Medical Colleges. Professor Jackson, who views the subject from a pedagogic standpoint, believes that one of the faults of modern medical teaching is the failure

of teachers to study and apply effective methods of instruction.

"Efficient teaching requires a clear view of the ultimate aim, which in medicine is to train efficient practitioners. To accomplish this aim, rational methods of teaching should develop in the student self-activity in observation, reasoning and action. While some may be unable to accept fully the ideas here presented, all will surely agree that great improvement would result if medical teachers would study more carefully their educational methods. The younger teachers who are so fortunately located could greatly improve their efficiency by taking work in the schools of education connected with the various universities. Those unable to do this should at least study the principles of pedagogy, which are available in numerous books."

Doubtless there is much truth in what Dr. Jackson says. Certainly good teachers are as rare in medicine as in any other branch of knowledge. Probably most good teachers of anything are born rather than made. At any rate, it seems that in medicine the art of teaching is peculiarly a matter of personality. It should be remembered that medicine, particularly in its surgical branches, is in considerable part a handicraft, which like all fine arts is taught by example and experience. If it be granted that the ultimate aim of teaching medicine is to train efficient practitioners, it must be conceded that though pedagogic methods can do much, personal influence can do more. Class teaching is available in laboratory subjects and for general didactic purposes, but in clinical subjects the highest instruction can best be given to small sections or to the individual. There is still something to be said for the old method of learning medicine by apprenticeship. It is this personal element in the teaching of medicine which makes our profession to some extent still an esoteric craft. Whatever each of us may have acquired in the class room by way of fundamental principles and of detailed information, the finalities of our education and the inspiration of its practice are due not so much to pedagogic methods as to the transmission of personal example from those who have been our masters.

#### NOTIFICATION OF INFECTIOUS DISEASES.

For a number of years the Boston Board of Health has been making a vigorous effort to obtain as complete reports as possible of the existence of those infectious diseases in the city which physicians are obliged by statute law to report. Several notices were sent to the physi-

cians of the city calling their attention to this law, and requesting that these reports be sent in all cases to the board. In spite of this, however, in the year 1909 it was found that 324 cases of pulmonary or laryngeal tuberculosis were not reported, the first intimation of their existence being the presentation of the death certificate. An investigation was made of all these cases and in a great majority it was found that physicians had been called and had made one or two visits. Other cases were reported by medical examiners, and quite a number from hospitals, the cause of death being discovered on autopsy. In 1910 there were 328 cases, and in 1911 but 63 cases, thus neglected. This improvement in reporting followed the prosecution of physicians who were found to be attending cases of tuberculosis and not reporting them. During the present year, 1912, but 14 cases have been found not reported up to April 1. These have all been investigated, and as a result two physicians have been summoned into court. One has been fined \$50, the minimum fine which the court can impose on cases found guilty, and the other case is pending.

It is not the desire of the Board of Health to prosecute any physician, but it is its determination to have these reports full and complete, in conformity with the law. It feels that in no other way is it possible to deal with and control this disease. The board hopes that the physicians of the city will realize its position in this matter and the importance of their submitting reports on contagious diseases as required by law. Otherwise it feels it a duty to proceed against them, if in no other way it can obtain this information. Physicians reporting infectious diseases will greatly aid the board in its work if they will carefully fill out the returns, giving information on all the details requested.

#### MEDICAL NOTES.

**LONDON DEATH-RATE IN FEBRUARY.** — Statistics recently published show that the total death-rate of London in February, 1912, was 17.9 per 1,000 living. Among the several districts and boroughs the highest rate was 25.1 in Holborn, one of the central districts of the old city, and the lowest was 13.9 in Lewisham, a southern suburb.

**LOCATION OF BUBOES IN PLAGUE.** — In the report of the United States Public Health and Marine-Hospital Service for April 5 is a note by Dr. George W. McCoy on "A Peculiarity of Plague on the Hamakua Coast of Hawaii." Of the cases of plague occurring in all other parts

of Hawaii from 1900 to 1912, 86% had buboes in the inguinal region and only 2% in the cervical. In Hamakua from 1910 to 1912, 90% had cervical buboes, 10% axillary, and none inguinal. In explanation of this peculiarity, the author says:

"It is well known that when plague is induced in experimental animals by feeding infected material, in the great majority of cases a bubo develops in the neck; hence one is justified in suspecting that when a series of cases in human beings occur in which cervical buboes predominate we must consider it at least possible that the usual mode of transmission (through fleas) may not have operated in these cases, and that ingestion may have played a part."

**SEAWATER DISPENSARIES IN ENGLAND.** — The promptness with which any new method of treatment becomes popularized is illustrated by the establishment of "seawater dispensaries" in England. The seawater treatment for diarrheal diseases of infants was originated in 1910 by Dr. Quinton, of Paris. It was immediately taken up by English enthusiasts, and in 1911 the first seawater dispensary for its administration was established in London. A second was opened at Edinburgh recently, and others are soon to be established at Leicester, Windsor and Limehouse. The treatment, which consists of the subcutaneous injection of a series of doses of sterile seawater, has been extended to chronic gastritis, neurasthenia, anemia, eczema, psoriasis and chronic tuberculous adenitis and osteitis.

**CARE OF STUDENT HEALTH AT UNIVERSITY OF WISCONSIN.** — The issue of *Science* for April 12 notes the progress of plans for a new building for the department of clinical medicine at the University of Wisconsin.

"The department exists for the purpose of looking after the health of students in the university. There is a corps of five doctors and four trained nurses to attend to sick students or take precautionary measures in the case of those exposed to disease. The new building will have on the first floor ten offices for the treatment of common ailments, and in the basement a sterilization room and special treatment rooms, fitted up with x-ray machines, baking machines and other equipment. The value of having a department to look after the health of students is shown by the fact that since the establishment of the department there have been no epidemic diseases among the students that were not controlled as soon as the first cases appeared. Previous to its establishment, there were a number of bad epidemics among students, the most serious of which was an outbreak of typhoid fever in 1907 which resulted in the death of several students."



**SEVENTH INTERNATIONAL CONGRESS ON TUBERCULOSIS.** — On Sunday, April 14, the Seventh International Congress on Tuberculosis was formally opened by the King and Queen of Italy at the Capitol in Rome. On Monday, April 15, the first general business session of the Congress was held in the historic Castel Sant' Angelo, where the meetings of the several sections have continued during the week. One of the prominent topics for discussion has been the relation of bovine to human tuberculosis and the infectivity of bovine tubercle for man. It is hoped that new contributions of value may be made to this and to other questions left unsettled at the close of the Sixth International Congress on Tuberculosis, which was held at Washington, D. C., in 1908. The present Congress has been attended by the representatives of forty civilized nations. The senior delegate from the United States government is Mr. Nathan Strauss, of New York; the junior is Dr. Edward O. Otis, of Boston. The six official representatives of the American National Association for the Study and Prevention of Tuberculosis are Dr. Henry Barton Jacobs, of Baltimore; Dr. Livingston Farrand, of New York; Dr. Charles L. Greene, of St. Paul, Minn.; Dr. Walter Holden, of Denver, Colo.; Dr. Gerald B. Webb, of Colorado Springs, Colo.; and Dr. William H. Baldwin, of Washington, D. C.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, April 16, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 19, scarlatina 24, typhoid fever 4, measles 192, smallpox 0, tuberculosis 104.

The death-rate of the reported deaths for the week ending April 16, 1912, was 18.90.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, April 13, 1912, was 242, against 243 the corresponding week of last year, showing a decrease of 1 death, and making the death-rate for the week, 17.35. Of this number 134 were males and 108 were females; 236 were white and 6 colored; 146 were born in the United States, 94 in foreign countries and 2 unknown; 46 were of American parentage, 169 of foreign parentage and 27 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 26 cases and 3 deaths; scarlatina, 27 cases and 1 death; typhoid fever, 1 case and 1 death;

measles, 160 cases and 4 deaths; tuberculosis, 113 cases and 24 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 44, whooping cough 4, heart disease 32, bronchitis 1. There were 10 deaths from violent causes. The number of children who died under one year was 38; the number under five years, 58. The number of persons who died over sixty years of age was 68. The deaths in hospitals and public institutions were 96.

**A CENTENARIAN.** — Paces Slosberg, who died on April 2 at Randolph, near Portland, Me., was locally reputed to have been born in 1803.

**INSTRUCTIVE DISTRICT NURSING FUND.** — The total subscriptions to the endowment fund of the Boston Instructive District Nursing Association, whose appeal has been noted in recent issues of the JOURNAL, now amount to \$65,430.

**MASSACHUSETTS HUMANE SOCIETY.** — At the annual meeting of the Massachusetts Humane Society, held in Boston last week, Dr. J. Collins Warren was elected president and Dr. George B. Shattuck first vice-president for the ensuing year.

**TERMINATION OF SMALLPOX EPIDEMIC IN SALEM.** — The smallpox epidemic at Salem, Mass., which was noted in last week's issue of the JOURNAL, seems to be at an end, for no new cases have been reported this week. There was a total of forty-two cases, with no fatality.

**SCARLET FEVER IN MIDDLEBORO.** — Report from Middleboro states that on April 8 there were in that town twenty-seven cases of scarlet fever and that in consequence the local high school and other public buildings have been closed and several infected houses quarantined.

**RECRUDESCENCE OF MEASLES EPIDEMIC IN BOSTON.** — During the week ending April 13, one hundred and sixty cases and four deaths of measles were reported in Boston, showing an increase over the previous week in both the incidence and the mortality of this disease.

**MILK AND OLEOMARGARINE FINES.** — Before the South Boston district court last week six local dealers were fined an aggregate of \$220 for having in their possession milk from which the cream had been taken, and for selling milk below the standard required by law. Another dealer was fined \$10 for selling oleomargarine as butter.

**A LIVING CENTENARIAN.** — Mrs. Laura Griggs Moore, of Brimfield, Mass., who is said to have

been born in 1810 at Union, Conn., celebrated last week the supposed one hundred and second anniversary of her birth. Since June, 1911, she has been confined to her bed on account of paralysis from cerebral hemorrhage.

**MASSACHUSETTS HOMŒOPATHIC MEDICAL SOCIETY.** — The annual meeting of the Massachusetts Homœopathic Medical Society, held in Boston last week, was attended by over two hundred members. Dr. George R. Southwick, of Boston, was elected president; Dr. Edward S. Calderwood, of Roxbury, recording secretary; and Dr. Thomas M. Strong, of Boston, treasurer, for the ensuing year.

**WORK OF SALEM HOSPITAL.** — The recently published thirty-seventh report of the Salem (Mass.) Hospital records the work of that institution for the year 1911. During this period, 2,603 persons were admitted to the different departments of the hospital, of whom 1,095 received house treatment and 1,399 were treated in the public and 109 in the private clinic of the outpatient department. Four nurses were graduated from the training school. There is urgent need of a new building for the nurses' home.

**REPORT OF FOXBOROUGH STATE HOSPITAL.** — The recently published twentieth annual report of the trustees of the Foxborough State Hospital records the work of that institution for the year ending Nov. 30, 1911. During this period the new law permitting voluntary admissions came into full effect, and 474 cases were admitted under its provisions. The total number of patients under treatment during the year was 1,137, of whom 248 were insane and 889 inebriate. Of the latter class 709 were discharged, of whom about 20% were considered cured and 20% improved. The need is emphasized of colonies for the treatment of special groups of cases.

**RECENT HOSPITAL BEQUESTS.** — The will of the late Elizabeth Hooker, which was filed last week in the Suffolk probate court, contains bequests of \$1,000 each to St. Martha's Home, Bronxville, N. Y.; to the House of the Good Samaritan, Boston; and to the Convalescent Home of the Children's Hospital, Wellesley, Mass.

The will of the late Oliver I. Kimball, of Newton, Mass., which was allowed last week in the Middlesex probate court, contains bequests of \$5,000 to the Lynn (Mass.) Hospital and \$1,000 to the Free Home for Consumptives, Dorchester.

#### NEW YORK.

**SULLIVAN INSURANCE BILL.** — Governor Dix has signed the Sullivan insurance bill, which provides that an insurance company may issue a single policy embracing a risk upon the life or health of a person, together with insurance against accident and disability resulting from sickness.

**REPORT OF DEPARTMENT OF HEALTH.** — A recently published extract from the thirty-second annual report of the New York State Department of Health discusses particularly the fight against preventable diseases, and contains abstracts of the various activities of the department in its prosecution.

**PROCEEDINGS OF CONFERENCE OF SANITARY OFFICERS.** — The recently published report of the eleventh annual conference of sanitary officers of the state of New York presents the series of eighteen addresses on hygienic topics delivered by various sanitarians before the meetings of that organization on Oct. 25, 26 and 27, 1911. They are valuable reading for those interested in these topics.

**GIFT OF STADIUM.** — The Sinking Fund Commission has voted to grant to the College of the City of New York a tract of land which had previously been acquired for a park, situated to the south of the college grounds and extending from 136th to 138th Street. On this it is proposed to erect a large stadium, for the construction of which Adolph Lewisohn, the banker, has offered to provide as a gift to the city. The plans for this, as proposed by President Finley, include seats of cement or stone for from 7,000 to 10,000 persons on the natural grade at the upper portion of the plot and the erection of an outdoor stage, leaving room at the lower part for athletic fields and running track, the whole amphitheater to be encircled by a promenade. The donor, Mr. Lewisohn, is well known as a benefactor of educational and charitable objects. Among his gifts is one of \$250,000 for a building for the School of Mines of Columbia University, and he has been a liberal contributor to Mount Sinai Hospital and other benevolent institutions.

**NEW HOSPITAL FOR CHRONIC TUBERCULOSIS.** — The New York Association for Improving the Condition of the Poor has renewed its offer to build and equip, at a cost of \$250,000, a large hospital for the treatment of bone, joint and gland tuberculosis, on condition that the city

provide a suitable and adequate seashore site for the institution and assume its ownership and maintenance when completed. In a letter addressed to the Board of Estimate and Apportionment the association, after referring to the excellent results accomplished at its Sea Breeze Hospital on Coney Island, says: "Both the cures and improvements effected and the large number of cases we have been unable to receive demonstrate the urgent need for a sea beach hospital adequate to the number of children suffering from this disease. The present city administration has wisely decided to acquire the site known as Rockaway Park for health and recreation purposes, and, with the appointment of the Commissioners of Estimate on March 21, title thereto has vested in the city. This is a part of the site which the city decided in 1907 to acquire for the express purpose of devoting a portion of it to the above-mentioned hospital, and also of providing sites for one or more convalescent hospitals to be erected and maintained by charitable and benevolent societies of the city. Our association has already caused its architects to prepare tentative plans, and is, therefore, in a position to break ground and proceed with the construction of the hospital almost as soon as the Board of Estimate and Apportionment shall assign a site and approve the plans." Of the 204 patients admitted to Sea Breeze since its opening in 1904, 98 have been discharged cured; in 14 cases the disease has been permanently arrested; 45 have shown decided improvement; 6 have died; and 41 are still under treatment.

## Current Literature.

### MEDICAL RECORD.

APRIL 6, 1912.

1. JACOBUS, A. M. *Physical Examination a Requirement for a Correct Diagnosis and the Honest Treatment of the Sick.*
2. REED, R. *The Sexual Education of the Child.*
3. FARBACH, H. J. *Specific Treatment of Pyosalpinx.*
4. BISSELL, J. B. *Fracture and Dislocation of the Upper End of the Humerus.*
5. WINFIELD, J. M. *Salvarsan as a Cure of Syphilis. A Résumé of Results Obtained in Cases after Ten Months' Observation.*
6. VON OEFELE, F. *Clinical Technic for Enzymes.*

### NEW YORK MEDICAL JOURNAL.

APRIL 6, 1912.

1. LYDSTON, G. F. *Sex Mutilations in Social Therapeutics.*
2. WILLIAMS, T. A. *Diet in Nervous Disorders.*
3. HAYS, H. *The Regulation of Fees.*
4. RONGY, A. J. *Report of Three Cases of Pubiotomy.*
5. \*ROBINSON, B. *Alcohol and Spirit of Camphor as Surgical Dressings.*

6. MOSCHCOWITZ, A. V. *Torsion of Uterine Adneza in the Hernias of Nurslings.*
7. KELLER, W. L. *Further Observations on the Surgical Treatment of Hallux Valgus and Bunions.*
8. DESVERVINE, C. M. *A Contribution to the Study of the Physiology and Pathology of the Skeleton on the Oral Extremity of the Thorax (Stethographic Method).*

5. Robinson recommends in highest terms the use of alcohol and spirit of camphor as surgical dressings. He always uses one of these for wounds, bruises and sprains. For open wounds he considers them preferable in every way to corrosive sublimate or any other antiseptic solution. He suggests the use of alcoholic solutions for irrigating the abdominal cavity in cases of diffuse septic peritonitis. He uses spirit of camphor with water, one part to three, the alcohol diluted less and sometimes pure. [L. D. C.]

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. APRIL 6, 1912.

1. \*MURPHY, J. B. *Contribution to the Surgery of Bones, Joints and Tendons.* (To be continued.)
2. GRAYSON, C. P. *The Chorus Girl's Vocal Troubles.*
3. HEMENWAY, H. B. *The Therapeutic Use of Citric Acid and the Citrates.*
4. SIMPSON, C. A. *Infantile Eczema.*
5. REED, A. C. *Chronic Constipation.*
6. CHAMBERLAIN, W. P. *A Study of Tropical Diseases in the Philippine Islands: a Summary of the Work Performed during the Last Two Years by the United States Army Board.*
7. DALAND, J. *The Diagnosis of Pain in the Upper Abdomen.*
8. HOPKINS, F. T. *Acute Mastoiditis, Sinus Thrombosis, Superficial Brain Abscess: Recovery.*
9. WILLIAMSON, C. S. *The Value of the Loeffler Method of Sputum Examination.*
10. BERNHEIM, B. M. *An Emergency Cannula. Transfusion in a Thirty-Six-Hour-Old Baby Suffering from Melena Neonatorum.*
11. SMITHIES, F. *A Simplified Technic for the Application of the Glycyltryptophan Test to Gastric Contents.*
12. AHLBORN, M. B. *A Simple Method for Making Carbon Dioxide Snow.*
13. BREN, M. R. *Report of a Case of Simulated and One of True Maxillary Empyema, Both of Dental Origin.*
14. JACKSON, D. E. *A System of Electric Wiring for Using Direct Street Current in Laboratories.*
15. KRAUSS, W. *A Slick Drying Attachment for Centrifuges and an Aluminum Staining Dish.*
16. WEBER, L. *Pipette Filler.*
17. HEYN, L. G. *Acute Articular Rheumatism Treated by the Rectal Administration of Sodium Salicylate.*

1. Murphy makes the following statements as a result of extensive experimental bone work. The periosteum fully detached from bone and (1) transplanted into a fatty or muscle tissue bed in the same individual, if he be young, may produce a lasting bone deposit; (2) transplanted into another individual or animal of the same species, it rarely if ever produces a permanent bone deposit; (3) transplanted into another species it never does so. Periosteal strips elevated at one end from the bone and attached at the other, if turned out into muscle or fat, reproduce regularly bone on their under surface for a greater portion of their entire length, but transplanted into other individuals or animals of the same species and contacting at one end with exposed or freshened bone, it rarely produces permanent bone, even for a small extent at its basal attachment and never produces bone for its full extent. Bone with its periosteum transplanted into muscle or fat in the same individual, and free from bony contact, practically always dies and is absorbed, except in the case of very young children or infants. Transplanted into another species it is always absorbed. Bone transplanted without the periosteum into the muscle or cellular tissue always dies and is absorbed. Bone with or without periosteum tissue planted in the same individual and contacted with other living osteogenetic bone at one or both ends of the transplanted fragment always becomes united to the living fragments and acts as a scaffolding for the reproduction of new bone of the same size and shape as

the transplanted fragment; if asepsis is attained, it will scaffold the production of new bone even into the joint when it is surrounded by capsule, and tuberosities are produced in about the regular location: the transplanted fragment, however, is ultimately absorbed, the graft being not osteogenetic but osteoconductive. [E. H. R.]

# INDIAN MEDICAL GAZETTE.

MARCH, 1912.

1. \*WOOLLEY, J. M. *Convict Marriages in the Andamans.*
2. HEFFERNAN, P. A *Case of Acute Polioencephalitis Superior, with Amentia: Recovery.*
3. ROGERS, L. *Gleanings from the Calcutta Post-Mortem Records. V. Diseases of the Lung Other than Tubercle.*
4. \*MEGAW, J. W. D. *A Note on Some Cases of Probable Lathyrism.*
5. SMITH, F. F. S. *Treatment of Trachomatous Conditions by Subconjunctival Injections of Cyanide of Mercury.*
6. DUNN, C. L. *Note on Complement Deviation in the Sera of Vaccinated Calves.*
7. WHITMORE, A. *A Case of Tetanus Infection from an Operation Wound.*
8. BROOME, H. H. *The Treatment of Oriental Sore by CO<sub>2</sub> Snow.*
9. \*PATTON, W. S. *Kala-Azar and Bedbugs.*

1. Woolley reports the results of fifty years of convict marriages in the penal colonies of the Andaman and Nicobar Islands. The percentage of sterility in these marriages is relatively high, owing to the prevalence of venereal diseases in the criminal class; but signs of mental deficiency among the children are distinctly rare, and in general there seems to be a regenerative tendency. [Such statistics should at least deserve consideration by those who advocate sterilization of criminals. R. M. G.]

4. Megaw reports a series of ten cases, with obscure neuritic symptoms, occurring in the jail at Alipore, which he regards as due to chronic food intoxication by dāl, and as belonging to the lathyrism group.

9. Surgeon-General Bannerman reports that Patton has made the "important discovery" that the parasite of kala-azar undergoes complete development in *cimex lectularius* as well as in *cimex rotundatus*. The practical value of this observation lies in the possibility which it affords of checking the infection. [R. M. G.]

# THE LANCET.

MARCH 16, 1912.

1. \*BAINBRIDGE, F. A. *The Milroy Lectures on Paratyphoid Fever and Meat Poisoning. Lecture I.*
2. \*BARKER, A. E. *A Clinical Lecture on Derangements of the Knee Following Strains and Blows.*
3. \*SHAW, H. B. *Hypersensitiveness: the Parallelism in the Phenomena of Hypersensitiveness and Certain Clinical Manifestations of Obscure Nature.*
4. RUNDLE, C., AND BURTON, A. H. G. *The Bed Isolation of Cases of Infectious Disease.*

1. In the first of the Milroy Lectures, Bainbridge discusses paratyphoid fever, its etiology and relation to meat poisoning. Paratyphoid fever he defines as a disease clinically resembling typhoid fever and often undistinguishable from it, caused by *B. paratyphosus* of types A or B. Meat-poisoning is a disease of which the chief characteristic is acute gastro-enteritis of brief duration caused by either *B. enteritidis* or *B. suipastifer*. He discusses in detail in this lecture the bacteriology, prevalence, incidence, clinical features and epidemiology of paratyphoid fever.

2. Barker discusses various derangements of the knee following trauma, such as separation of the semilunar cartilage, enlarged synovial membranes, rheumatoid arthritis, rupture of lateral ligaments, fractures.

3. Shaw first defines hypersensitiveness and the original investigations on this subject by Richet and Portier. He then discusses the symptoms of hypersensitiveness in (a) dogs, (b) guinea-pigs and rabbits and (c) man. He describes in detail the symptoms of serum disease, i. e., those symptoms following a first injection of serum, and then goes over those symptoms following a second injection of serum in man, as to the immediate effect and the deferred or delayed effects. He compares these symptoms with parallel clinical phenomena such as asthma, emphysema,

edema, etc. He then compares these phenomena with various disorders of the nervous system, including disturbance of the circulatory, muscular or digestive systems, and last includes disorders of the cutaneous system. He compares the above clinical symptoms with the phenomena of hypersensitiveness, and concludes that it is, therefore, possible that subjects who suffer from these disorders have been rendered hypersensitive to their own organs. The article is of great interest, largely theoretical, but with some very practical applications. [J. B. H.]

# BRITISH MEDICAL JOURNAL.

MARCH 16, 1912.

1. \*BRYAN, C. W. G. *Serum and Vaccine Therapy in Connection with Diseases of the Eye.* (Continued.)
2. \*LODGE, S. *An Address on Cases Illustrating Some Intracranial Conditions of General Interest.*
3. \*BARKER, A. E. *A Fourth Report on Experiences with Spinal Analgesia in Reference to 2,354 Cases.*
4. BUTLER, T. H. *Subdural Abscess, Thrombosis of the Lateral Sinus, and Diffuse Osteomyelitis of the Skull Bones Treated with Vaccines: Recovery.*
5. STURM, F. P. *Nasal Obstruction Due to Osteomata of the Posterior Nares.*
6. COLLINS, J. R. *Notes on Arthritis.*
7. SANDERS, J. H. *Boracic Acid Poisoning.*
8. HICHENS, P. S., AND ODGERS, N. B. *A Case of Vegetable Gastrolith.*

1. Bryan, in the first part of his paper, discusses the serum treatment of various eye diseases such as extrinsic and internal tuberculosis of the eye, iritis, kerato-iritis, irido-choroiditis and choroiditis, mostly of tuberculous origin. He uses Wright's method governed by the opsonic index, but describes the other methods and the work and results of other men. He presents various illustrative cases.

2. This paper is an interesting description with comments as to diagnosis, prognosis and treatment of various cases of gigantism, acromegaly and other forms of hyperpituitarism.

3. Barker's paper is explained by the title. He gives details as to technic, results, etc., on such a large series of cases as to make his article one of great value to those interested. [J. B. H.]

# DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT. No. 10.

MARCH 7, 1912.

1. STRAUSS, H. *Carbohydrate Cure in Diabetes.*
2. SONNENBURG, E. *Closing or Drainage of the Peritoneal Cavity in General Peritonitis.*
3. KÜMMELL, H. *Indications for Surgical and Internal Treatment in Gastric Disease and the End Results of Operations.*
4. \*KRAUS, R. *Results of the Treatment of Bacillary Dysentery with Antitoxic Serum.*
5. BORGBJÄRG, A. *Disturbances in Motility of the Stomach.*
6. BOAS, I. *Determination of Motility of the Stomach.*
7. MEROWSKY, M. *Water Retention in the Oatmeal Cure for Diabetes.*
8. THOMAS, E. *Classification of the Kinds of Myxedema.*
9. \*v. LIEBERMANN, L. *Resistance of Erythrocytes in Healthy and Sick Men, with a Simple Method for its Determination.*
10. HIRSCH, M. *Criticism of the Schultz Swinging as a Method for Resuscitating Asphyxiated Babies.*
11. HAUSMANN, T. *Spontaneous Displacement of the Colon. Its Cause and Palpatory Recognition.*

4. Kraus has used the antitoxic serum in cases of bacillary dysentery with very favorable results. His reasons for using it are that the toxin of the Shiga-Kruse dysentery bacillus exerts with rabbits, dogs and apes some anatomical changes on the intestines which are indistinguishable from those in man. A serum obtained with this toxin, although it has only a weak bactericidal effect, has a marked antitoxic effect in human cases.

9. Liebermann and Fellingner have studied many different cases of illness in regard to the resistance of their blood corpuscles towards hemolysis. They find that in health and in many sick conditions the resistance remains

normal. On the other hand, certain illnesses show a diminution in the resistance, usually in cases of general debility and anemia. Also certain poisons affect this resistance, and notable among them is alcohol. [C. F., Jr.]

No. 11. MARCH 14, 1912.

1. SCHITTENHELM, A. *Albumen Metabolism, Anaphylaxis and Internal Secretions.*
2. ASCHOFF, L. *Mechanical Features in the Pathogenesis of Round Gastric Ulcers and their Relation to Cancer.*
3. FUJINAMI, K. *Simple Method for Roentgen Ray Examination of Digestive Juices in an Empty Stomach.*
4. HENIUS, M. *Importance of Stomach Tube for Diagnosis.*
5. POLLITZER, H. *Nature and Role of Albumen Bodies Precipitated by Acetic Acid.*
6. HIRSCHFELD, B. *Inheritance of Disease.*
7. \*PICK, F. *Inheritance of Disease.*
8. REUSERT, O. *The Knowledge of Inflammatory Tuberculosis.*
9. ROEPKE, O. *Present Status of the Diagnosis of Tuberculosis.*
10. ENGELN. *Treatment of Cholangitis with Chologen.*
11. v. LIEBERMAN, L., JR. *Treatment of Inflammation of the Edge of the Eyelids.*
12. KORB, P. *Prothamin.*
13. SCHALL, M. *New Technical Devices in Medicine.*

7. Since Pick's former paper on traits and diseases handed down through families he has received many communications telling of similar conditions, a few of which he presents here, showing how diabetes, structural or growth anomalies, alkaptonuria, etc., may appear in many people of one family. [C. F., Jr.]

BERLINER KLINISCHE WOCHENSCHRIFT. No. 4.

JAN. 22, 1912.

1. HIRSCH, C., AND MASCHKE, W. *An Experimental Research on Nephritis.*
2. BERTLING, F. *The Usefulness of Urethan in Pediatrics.*
3. KUTTNER, L. *Two Cases of Polycythemia.*
4. UHLENHUTH, P., AND MULZER, P. *The Successful Inoculation of Blood, Blood Serum and Seminal Fluid of Syphilitic Humans into the Testicle of Rabbits.*
5. SCHUELLER. *Syphilitic Reinfection.*
6. BAERTHELEIN. *The Differential Diagnosis of Cholera-Like Vibrios.*
7. \*LEHMANN. *Indications for Decapsulation of the Kidney.*
8. FEDERMANN. *The Limit of Operability of Carcinomas of the Stomach.*
9. SCHNAUDIGEL, O. *Occupation Diseases and Injuries of the Eyes.*
10. RITTER, J. *A Short Remark on Our Duties Towards Public Disinfection.*

7. The author believes that Edebohl's contentions for the value of decapsulation of the kidney are based on false propositions and that these are not borne out in practice. He believes that decapsulation is indicated only in so-called nephralgia and angioneurotic bleeding from the kidney. For uremia, the operation is of value only when it is an acute exacerbation of a chronic nephritis, and the kidney can still functionate. The value of the operation in all these cases depends on a relaxation and change in the pressure of the kidney, and a temporary betterment of the circulation. Marked diuresis is the phenomenon which occurs. [J. B. S., Jr.]

No. 5. JAN. 29, 1912.

1. STADELMANN AND MAGNUS-LEVY, A. *The Extensive Poisonings which Occurred in Berlin during Christmas, 1911.*
2. HIRSCHFELD, F. *A Further Contribution to the Etiology of Diabetes.*
3. BORTZ. *Angina with Swelling of the Liver.*
4. ARONSON, N. *Anaphylatoxin and Bacterial Poisons.* (Continued.)
5. ADAMKIEWICZ, A. *The Reaction of Degeneration of the Sensory Nerves.*

6. BAER, O. *Experiences with C. Spengler's I.-K.*
7. SAMSON, J. W. *The Treatment of Lung Tuberculosis with Artificial Pneumothorax.* (Continued from No. 51, 1911.)
8. v. TOBOLD. *New Apparatus.*

WIENER KLINISCHE WOCHENSCHRIFT. No. 13.

MARCH 28, 1912.

1. NOBL, G., AND FLUSS, K. *The Intracutaneous Reaction in Syphilis.*
  2. \*RICHTER, I. *Pain-Mitigating and Pain-Exciting Means in Obstetrics.*
  3. HOFBAUER, L. *Modern Treatment of Emphysema.*
  4. SCHMID, H. H. *Suggestion of a Simple Operative Procedure for the Treatment of Diverticulum of the Esophagus.*
  5. SPASSOKUKOZKY, N. *A Case of Osteomyelitis Produced by Paratyphoid Bacilli.*
2. Richter, from clinical experience in fifty-seven cases, regards pantopon and scopolamine as the best agent for alleviating pain in labor, and pituitrin as the best agent for stimulating and increasing pain. [R. M. G.]

DIE THERAPIE DER GEGENWART.

MARCH, 1912.

1. \*UMBER. *The Atropine Treatment of Phosphaturia.*
2. SYLLABA, L. *The Acute Influenzal Bronchiolitis of the Young.*
3. HARTELUST, R. *The Influence of Various Food Preparations and Carbohydrate Starvation on the Glycosuria and the Acidosis of Diabetes Mellitus.*
4. LAQUER, B. *A Method of Making Therapeutic Use of the Radio-activity of the Wiesbaden Hot Springs.*
5. SUSSMANN, M. *The Dioptry of the Gastroscope.*
6. FRAENKEL, A., AND KÖRTE, W. *The Present Status of Lung Surgery.*

1. UMBER has had good results in treating phosphaturia and the phosphatic diuresis, which, he says, is often associated with gastric hyperacidity and neurasthenia. The two important considerations, he believes, are to limit the ingestion of calcium and to increase the acidity of the urine. For this purpose he gives atropine in increasing doses up to 1 mgm. three times a day. Milk and eggs are forbidden and vegetables and fruit are given sparingly. [L. D. C.]

REVISTA DE LOS HOSPITALES.

JANUARY, 1912.

1. MEBOLA, L. *The Plantar Arch.*
2. \*PRAT, D. *Epithelioma of the Breast Clinically Manifesting Itself Only by Retraction of the Nipple.*

2. Prat reports two cases of early mammary epithelioma manifested solely by mamillary retraction, and both cured by radical Halstead operation. [R. M. G.]

FEBRUARY, 1912.

1. \*LANAYA, J. S. *Inflammatory Tuberculosis.* (To be continued.)
2. ALBO, D. M. *Strangulated Crural Hernia, with Involvement of Ovary and Tube.*
3. PELFORT, B. C. *Gangrene of the Foot in the Course of Typhoid Fever.*

1. In continuation of Poncet's publications on this subject, Lanaya discusses from the pathologic standpoint inflammatory tuberculosis of the endocardium, of the pleura, of the meninges and tuberculous perivisceritis. [R. M. G.]

## Obituaries.

CLARA HARLOWE BARTON.

MISS CLARA HARLOWE BARTON, founder of the American Red Cross Society, who did for the profession of nursing in America what Miss

Florence Nightingale did for it in Europe, died of pneumonia at Glen Echo, Md., on April 12, at the advanced age of ninety years. Her death terminates a career of notable and noble activity, whose example and benefits to humanity will live forever.

Clara Harlowe Barton was born at North Oxford, Mass., on Dec. 25, 1821. Her father was a Revolutionary soldier, having served with Mad Anthony Wayne, and she was the youngest of his five children. She early determined to become a nurse, but was obliged to spend some years as a school teacher, first at Oxford, later in Hightstown and Bordentown, N. J. Her health failed and she would doubtless nowadays have been sent to a sanatorium with a diagnosis of incipient phthisis. Instead, she went to Washington, D. C., where she obtained a position as confidential clerk in the United States Patent Office. She was the first woman to receive such an appointment, which she was given and held for three years on account of her trustworthiness and ability to keep a secret, both essential qualities for a nurse as well as for a physician.

At the outbreak of the Civil War she volunteered her services without previous training other than that of experience based upon a good domestic education. Throughout the war she served, both as a nurse at the front, in field hospitals and on the field of battle, and in administrative capacities relative to the transportation of the wounded and of their food and supplies. During the last year of the war she was appointed in charge of the bureau to attend to the correspondence of the relatives of missing prisoners, and continued to administer this bureau with the highest efficiency for three years after the restoration of peace.

In 1869 Miss Barton went to Europe, and in Geneva first learned of the establishment of the Red Cross Society, an organization which she resolved to introduce into her own country. She was in Berne at the outbreak of the Franco-Prussian War, and immediately volunteered for service with the German Army. Here again she distinguished herself by her devotion and administrative capacity, and at the close of the war received in recognition of her services the iron cross of merit from the German Emperor. Subsequently she went to Paris, and for her services there during the Commune was offered the cross of the Legion of Honor, which, however, she declined.

Returning to the United States in 1873, Miss Barton immediately began to urge the establishment of an American Red Cross Society. In 1877 she was made president of an American National Committee of the Red Cross; but the Treaty of Geneva, upon which the association rests, was not signed until 1882 by President Arthur. The American National Red Cross Society was then duly incorporated, and Miss Barton continued as its president until its reorganization in 1904. She was active in all its works and duties of relief: in the forest fires of Michigan, in the Mississippi floods and cyclone, in the Texas famine, in the

Charleston earthquake and in the Florida yellow fever epidemic.

In 1896 Miss Barton went to Armenia to aid the families there decimated by Turkish massacres. In 1898, at the age of seventy-seven, she again volunteered for service in the war of the United States with Spain, aided in the organization of nursing in the field hospitals in Cuba, and herself did active duty both as an administrator and as a nurse. For her services in Armenia she received from the Armenian Prince the jewel of the Royal Order of Melusine; and in 1902 she received from the Czar of Russia the decoration of the Order of the Red Cross.

In 1904 Miss Barton resigned the presidency of the American Red Cross Society, and since then had lived in retirement. The end of her life was peace, as its long and useful course had been devoted to the service of humanity in war and disaster. That her career should have so closely paralleled that of Miss Florence Nightingale is as gratifying as it was striking. The lives of both represented the response of English-speaking women to the call for service made upon them by modern times. They illustrated and established the nobility and dignity of the profession of nursing, and their names will always stand together as bright patterns of the self-sacrifice and devotion which are the first duty and obligation of the true nurse.

#### ADELCHI NEGRI, M.D.

DR. ADELCHI NEGRI, who died of phthisis on Feb. 19 in Pavia, Italy, was born at Perugia, Italy, in 1876. He began the study of medicine in 1895 at the Royal University of Pavia, where, as a pupil of Golgi, he became particularly interested in general pathology. After his graduation in 1900, he continued as an assistant at the pathologic institute. Here during the brief years of his life he pursued a series of researches which have made his name famous.

Negri's early publications were concerned with hematologic and cytologic questions,—the origin of the blood platelets, the structure of the gland cells. In his work on the latter subject, he demonstrated in the cells of the pancreas and of the salivary glands a reticulation analogous to that discovered shortly before by Golgi in the ganglion cells. In 1903 he began his studies on rabies, and demonstrated in rabbits, dogs, men, swine, cattle and birds with this disease the constant presence in the ganglion cells of small, rounded, vacuolated, granular bodies which he regarded as parasitic protozoa and the specific infective agent, and which have become universally known by his name. Though their etiologic character is not incontrovertibly proved, they are an invaluable aid in the rapid diagnosis of the disease in suspected animals.

In the course of his investigations into the etiology of rabies, Negri acquired extensive knowledge in the biology of the protozoa. In 1909 he completed a work on the process of division of the spores of *Sarcocystis muris*, and dem-



onstrated their transmissibility to guinea pigs by the enteric route. Finally, he was the first to demonstrate that vaccine virus can pass through the porcelain filter.

Negri also made investigations in the field of hygiene. He studied an epidemic of dysentery in Lombardy due to Shiga-Kruse bacteria, and in the last three years of his life was particularly interested and concerned in practical measures for the eradication of malaria.

Thus his brief life was devoted to unremitting labor in the pursuit of science. He possessed a marvelous gift of observation, critical acumen, prudent reserve and sound judgment. His untimely death is a pathetic loss to science, for he was a student of rare promise as well as high accomplishment in the field of pathologic research.

### Miscellany.

#### JAPANESE RULES OF HYGIENE.

THE Japanese Government has recently issued for free distribution to the people a code of rules for hygienic living. These rules are of particular interest for their peculiar amalgamation of persistent Oriental with Occidental ideas. Most of them are essentially the same as those of all civilized people; some are even in advance of Western practice; others could hardly be recommended for general guidance. The first eleven of these rules are as follows:

"First: Spend as much time out-of-doors as possible. Bask much in the sun and take plenty of exercise. Take care that your respiration is always deep and regular.

"Second: As regards meals, eat meat only once a day, and let the diet be eggs, cereals, vegetables, fruits and fresh cow's milk. Take the last named as much as possible. Masticate your food carefully.

"Third: Take a hot bath every day and a steam bath once or twice a week if the heart is strong enough to bear it.

"Fourth: Put on roughly-woven underwear (cotton fabrics are preferable) and clothes; a comfortable collar, light hat of any material and well fitting boots.

"Fifth: Early to bed and early to rise.

"Sixth: Sleep in a very dark and very quiet room, with windows open. Let the minimum of sleeping hours be six or six and one-half hours, and the maximum seven and one-half hours. In case of women a rest of eight and one-half hours is advisable.

"Seventh: Take one day of absolute rest per week, on which you must refrain from even reading and writing.

"Eighth: Try to avoid any outburst of passions and strong mental stimulations. Do not overtax your brain at the occurrence of inevitable incidents or of coming events. Do not say unpleasant things, nor listen, if possible, to disagreeable things.

"Ninth: Be married! Widows and widowers should be married with the least possible delay.

"Tenth: Be moderate in the consumption of even tea and coffee, not to say tobacco and alcoholic beverages.

"Eleventh: Avoid places that are too warm, especially steam-heated and badly ventilated rooms."

The injunctions about food and sleep are especially to be noted, particularly that not to take too much of the latter. With regard to matrimony, however, and the use of tobacco, the rules are not so cordially to be commended. It is significant that the Japanese appreciate so well the hygienic effect of conduct and temperament.

#### THE NATURE OF SEASICKNESS.

A RECENT issue of the *Scientific American* summarizes some interesting articles in *Über Land und Meer* on "Seasickness," by Dr. Carl Ludwig Schleich, of Stuttgart, Germany. Dr. Schleich regards seasickness as the nerve explosion following the summation of a series of unwonted irritant stimuli, as the final reflex of the vomiting center caused by rhythmic excitation.

"These excitations may come from the intestines and other abdominal organs, from the brain, the eye, from the muscles or the vasomotor nerves of the skin, from spasm or cramping of the blood vessels, from weakness of the heart and a lowered blood pressure, or even from emotions of the soul, such as fear, shame or horror.

"The pneumogastric nerve may be irritated mechanically by rhythmic shocks to the brain: (1) by irritation of the nerve at its exit from the skull; (2) from irritation of the nerve endings by reason of the pendular swinging of the intestines and other abdominal organs, where these are too heavy or have overlong suspensory ligaments; (3) from shocks to the ganglia in the skin of the abdomen, which predispose the vomiting center to reflex action. (4) A special sense of equilibrium is located in the semicircular canals of the inner ear—an 'apparatus of orientation.' Rhythmic shock of these canals, which are filled with a lymph in which float the fibers of the auditory nerve, is a frequent excitement of the reflex action of the nervus vagus.

"Furthermore the shaking of the brain itself may lead to a sudden convulsive cutting off of the blood supply, as indicated by Albert's experiment with hammer strokes on the skulls of animals. But an excessive lack of blood immediately affects the pneumogastric nerve—so we have (5) the emptiness of the blood vessels as a cause of irritation; and (6) there may be an irritation of the optic nerve."

The author's remark that swimmers, sailors and newborn infants are never seasick reminds one of the protection supposedly afforded by Providence to the inebriate and imbecile. His explanations, however, have in them much of reason, and probably come as near the truth as any of those that have been advanced to account for the phenomena of nausea.

## MEDICAL MEETINGS IN APRIL.

DURING the current month of April several medical meetings of importance have been held in this country and abroad. On April 4, the International Association of Medical Museums, and on April 5 and 6, the American Association of Pathologists and Bacteriologists, met at the University of Pennsylvania, in Philadelphia.

On Tuesday, April 9, the Twelfth Congress of the German Society for Orthopedic Surgery was held at Berlin under the presidency of Dr. H. Gocht, of Halle. The principal topic for discussion was "The Treatment of Infantile Paralysis," and the chief speakers were Dr. Paul Krause, of Bonn, and Dr. Fritz Lange, of Munich. The latter, it will be remembered, visited Boston two years ago. On April 10 was held, also in Berlin, the annual meeting of the German Surgical Society.

The Seventh International Congress on Tuberculosis is being held at Rome, Italy, from April 14 to 20. An account of its opening will be found in another column.

The one hundred and sixth annual meeting of the Medical Society of the State of New York is in session at Albany, N. Y., from April 16 to 20. The principal topics to be discussed are the prevention of blindness, of deafness, of insanity and of tuberculosis, and the leading address is to be by Dr. Walter B. Cannon, of Boston, on "The Benefits of Vivisection to Mankind."

## RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, MARCH 30, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	9	2
Chicago.....	703	205	Waltham.....	7	1
Philadelphia.....	—	—	Brookline.....	5	—
St. Louis.....	—	—	Chicopee.....	8	5
Baltimore.....	—	—	Gloucester.....	—	—
Cleveland.....	—	—	Medford.....	9	3
Buffalo.....	—	—	North Adams.....	7	1
Pittsburg.....	—	—	Northampton.....	6	0
Cincinnati.....	—	—	Beverly.....	9	3
Milwaukee.....	—	—	Revere.....	4	—
Washington.....	—	—	Leominster.....	2	—
Providence.....	—	—	Attleboro.....	5	1
Boston.....	287	88	Westfield.....	11	5
Worcester.....	62	15	Peabody.....	1	—
Fall River.....	34	10	Melrose.....	4	—
Lowell.....	45	14	Woburn.....	3	1
Cambridge.....	26	5	Newburyport.....	4	—
New Bedford.....	33	16	Gardner.....	5	2
Lynn.....	29	9	Marlboro.....	3	—
Springfield.....	35	8	Clinton.....	4	1
Lawrence.....	38	12	Milford.....	3	1
Somerville.....	28	3	Adams.....	1	0
Holyoke.....	19	7	Frammingham.....	4	0
Brockton.....	24	5	Weymouth.....	—	—
Malden.....	10	1	Watertown.....	1	0
Haverhill.....	17	5	Southbridge.....	6	2
Salem.....	11	3	Plymouth.....	3	2
Newton.....	14	1	Webster.....	2	1
Fitchburg.....	13	3	Methuen.....	3	2
Taunton.....	23	9	Wakefield.....	1	—
Everett.....	8	4	Arlington.....	2	0
Quincy.....	2	1	Greenfield.....	2	—
Chelsea.....	17	5	Winthrop.....	2	—

## NOTICE.

CUTTER LECTURES ON PREVENTIVE MEDICINE.—On Thursday, May 9, at 5 P.M., in the amphitheatre of Building E, in the Harvard Medical School, the second Cutter Lecture on Preventive Medicine will be given by Dr. John F. Anderson, Director of the Hygienic Laboratory, United States Public Health and Marine-Hospital Service, on the subject, "Some Recent Advances in Our Knowledge of Certain Infectious Diseases." The members of all classes in the Harvard Medical School, the medical profession, and the press are cordially invited to attend.

## RESIGNATION.

On April 10, DR. IRA REMSEN resigned as president of the Johns Hopkins University.

## APPOINTMENTS.

DR. I. CHANDLER WALKER, of the University of Iowa, has been appointed resident physician in charge of the medical outpatient department of the Peter Bent Brigham Hospital, Boston.

MISS MARY E. THRASHER, superintendent of the State Sanatorium at Rutland, Mass., has been appointed superintendent of the Robert Bent Brigham Hospital.

## RECENT DEATHS.

DR. HENRY C. HALLOWELL, who died on April 13, at Quincy, Mass., was born in Bangor, Me., on Nov. 12, 1847. After serving throughout the Civil War he graduated from Colby University, taught school for a time in Methuen, Chicopee Falls, and Gloucester, Mass., then engaged in business at Topeka, Kan. He finally began the study of medicine, and in 1887 received the degree of M.D. from the Hahnemann Medical College in Chicago. After practicing his profession for a time at Auburn, Me., in 1889 he settled at Quincy, where he continued until his death. From 1894 to 1905 he served as inspector of milk, and in 1905 was appointed local city physician. He was a member of the Massachusetts Homeopathic Medical Society. He is survived by his widow, by one daughter and by one son.

DR. WARREN BROWN MAXWELL, who died of pneumonia on April 11 at Grafton, Mass., was born in Wells, Me., on Oct. 6, 1848. After graduating from Dartmouth College in 1873, he received the degree of M.D. from the Dartmouth College Medical School in 1876. After a year of hospital training in Boston, he settled at Grafton, where he continued in the practice of his profession until his death. He was a Fellow of The Massachusetts Medical Society. He is survived by his widow.

DR. FRANK LEE DRUMMOND RUST, who died of septicemia on April 10 in Boston, was born at Eau Claire, Wis., on May 27, 1873. He obtained his preliminary education at Beloit College, Wisconsin, and received the degree of M.D. from the Harvard Medical School in 1897. He served as house officer at the Massachusetts Charitable Eye and Ear Infirmary, and then began the practice of his profession as an ophthalmologist. He was ophthalmic surgeon to the Carney Hospital, South Boston, and associate professor of ophthalmology at the Tufts College Medical School. He was a Fellow of The Massachusetts Medical Society. He is survived by his widow.

DR. LOUIS NELSON, who died of entero-colitis in Boston, April 14, was instructor in pharmacology at the Harvard Medical School. He had received from Harvard University the degree of A.B. in 1900, that of M.D. in 1904, and that of A.M. in 1905. He was a member of the American Therapeutic Society.

DR. FRANCIS W. BOWRON of Brooklyn, N. Y., who was graduated from the medical department of the University of the City of New York in 1871, died on April 11, from cardiac disease.

DR. HAROLD F. JEWETT of Brooklyn, N. Y., a well-known specialist in the diseases of women, died on April 12, at the age of forty-two years. He was graduated from the Long Island College Hospital in 1893 and at the time of his death was attending obstetrician to the Long Island and Kings County hospitals, and gynecologist to the Bushwick and Swedish hospitals, Brooklyn.

DR. HORACE WARDNER EGGLESTON, of Binghamton, N. Y., died on April 11. He was graduated from the medical department of the University of Vermont in 1896, and for a number of years was first assistant physician at the Binghamton State Hospital for the Insane. Dr. Eggleston was a son of George Cary Eggleston, the author, and in his earlier days was himself a well-known New York newspaper man.

DR. IRA ADELBERT HIX, of Binghamton, N. Y., a graduate of the medical department of New York University in 1883, died from typhoid fever on April 12.

DR. PHILIPPE RICORD, for more than forty years a practicing physician in Newark, N. J., died from pneumonia on April 10. Dr. Ricord was a son of Frederick W. Ricord, mayor of the City of Newark from 1870 to 1874, and was graduated from the College of Physicians and Surgeons, New York, in 1868.

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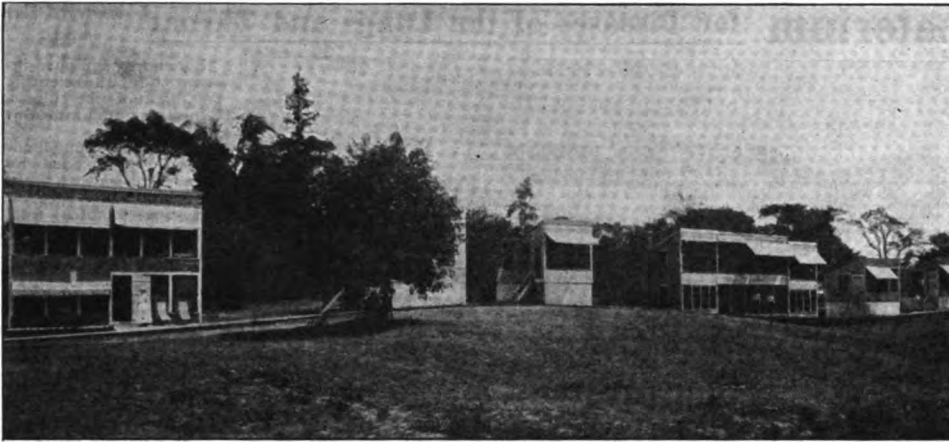
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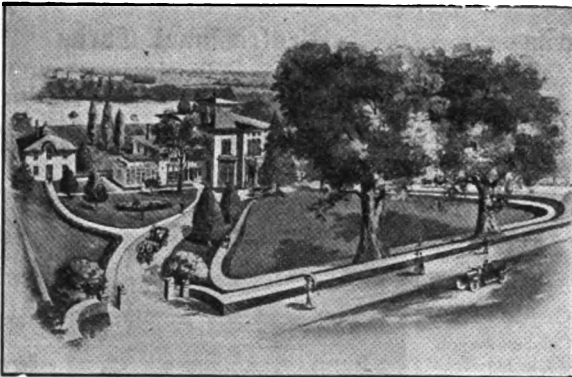
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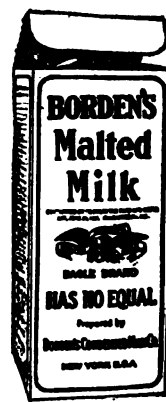
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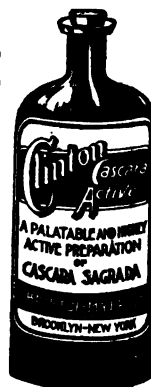
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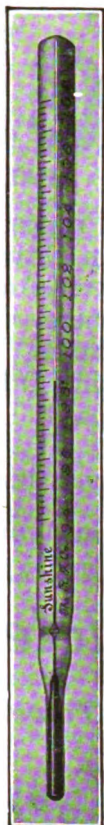
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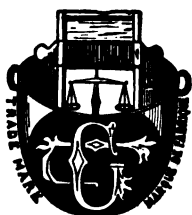


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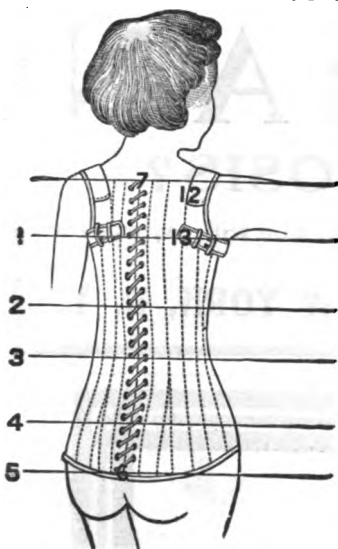
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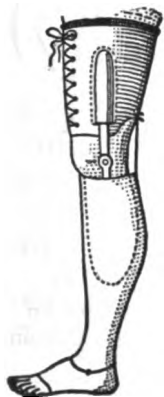
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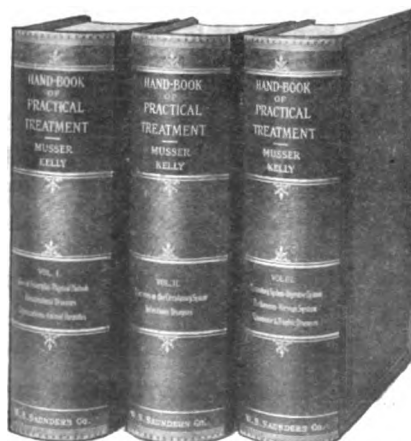
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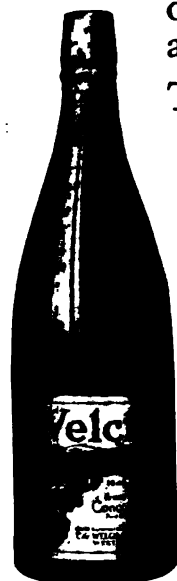
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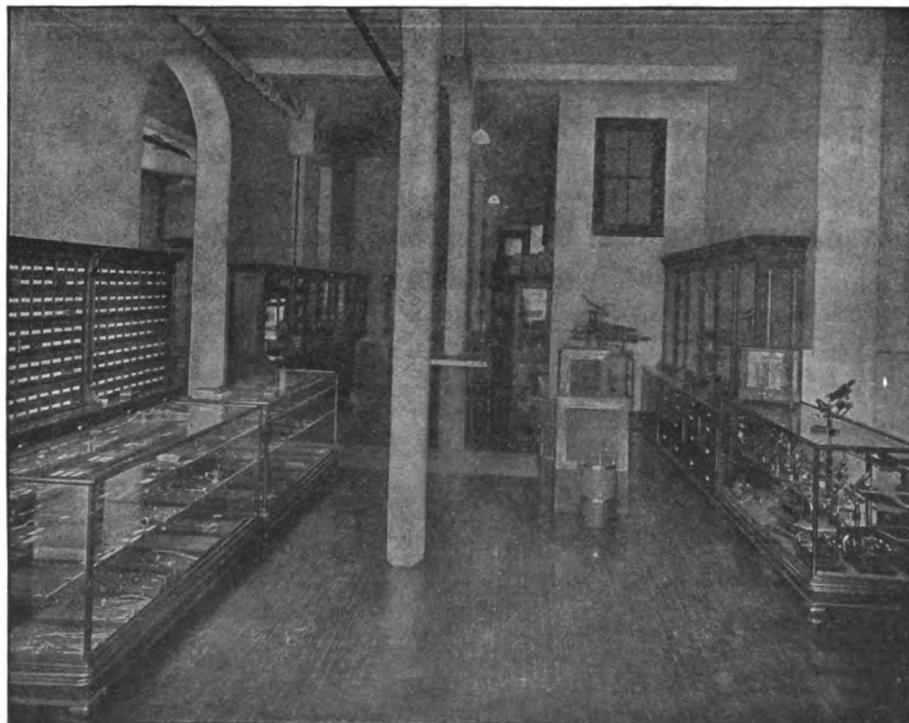
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**Original Articles.****CARE AND CONTROL OF THE ALCOHOLIC.\***

BY ALEXANDER LAMBERT, M.D.,

*Professor of Clinical Medicine, Cornell University, and Attending Physician to Bellevue Hospital.*

THE question on which you have asked me to speak to-night is one older than medicine itself, and one which each succeeding generation of physicians from time immemorial has been forced to struggle gradually to find the best working basis under which their medical science and prevailing sociologic conditions permitted them to work. It is perhaps unfortunate that we cannot inherit the wisdom of our forefathers that we might profit from the accumulation of their experience and ours, and thus more completely solve our problems. As far as the care and control of the alcoholic is concerned, there is rapidly growing a public opinion, which is becoming more and more definitely crystallized into acts from which we can expect to obtain definite beneficial results. The state of Massachusetts has really led in this advance in the state care of the inebriate, so that I feel it distinctly flattering to me to be asked to read a paper to you on this subject, and it causes me to appreciate fully my responsibilities in venturing to present it.

My own interest in this subject has arisen through the responsibility of caring for a general medical service in Bellevue Hospital. While an interne in that hospital I realized the inability to appreciate the general type of disease that came into the wards unless one appreciated how much the lesions in the body had been modified by excessive alcoholic indulgence, and how much the metabolic processes of the individual had also been perverted and modified. One could not understand the clinical picture presented to him unless one understood how the effects of alcohol modify these processes. The care of the patients in the alcoholic ward early impressed me with the realization that our generally accepted teachings had missed the mark as far as the alcoholic was concerned. What I had been taught, and what I read, did not coincide with what I saw. Too many prayers and too much profanity had been wasted on the alcoholic, and there had been too little study of his altered psychology and, therefore, no clear insight of the moving why he did it. Many superstitions and many false beliefs were still in vogue regarding the effect of alcohol, and are still not entirely eradicated, even from the minds of the profession. It has gradually been forcing itself upon my mind that to understand accurately the moving impulses of the alcoholic mind, one must appreciate clearly the differences between the physiologic action of alcohol in moderate and in excessive doses, and the increasingly permanent results of the drug on the brain tissues and the changed psychology of the perverted mind, and add to this the influence of varied environment on the

individual; and we must further realize that when once poisoned, the deprivation from a drug is entirely different from the elimination of that drug from the body, so that if we fail to unpoison the individual, we will surely fail in our care of him, and we are uselessly trying to control a poisoned mind, a method which has been a universal failure.

For the purposes of our discussion, we can best classify alcoholics into three classes; first, those suffering from industrial alcoholism, who begin taking the alcohol in moderate doses to enable them to do their work better, either muscular or mental work. This form soon leads to increasing doses and tends always to chronic alcoholism, with its accompanying mental deterioration. The second class are the convivial drinkers, who drink to increase the joys of life, and while this invariably tends to attacks of drunkenness, it does not so often tend to chronic alcoholism, but in any given individual it may turn into excessive steady drinking, and then naturally to chronic alcoholism. The third class are those who drink to blot out the recollection of sorrow or of trouble; those who cannot face the harshness of their existence or those who, congenitally weak mentally, cannot stand the strain of their environment, naturally turn to some narcotic for relief. The industrial alcoholism is particularly a classification of the English writers, like Sullivan, who has found in the traditions of various trades certain regular hours of taking alcohol to be spurred on to an increased muscular vigor and diminish the sense of weariness. There is no doubt that in the physiologic action of alcohol moderate doses do permit the motor activity to take place with greater ease and rapidity. With it, however, there soon goes a false mental sense of great improvement in work done, and greater accuracy in the acts performed. This last factor, this mental experience that one is working better and easier, and that one's work is of a higher grade, is the treacherous stumbling block over which this type of alcoholic falls. The moderate dose has soon to be repeated, with the result of a diminishing power to stimulate the flagging activities, with less work done and of poorer quality; but you cannot persuade the ordinary mind, when relieved of the sense of weariness and deluded with the sense of doing better, that it is deceived, for the greater the dose of alcohol taken, the firmer is the conviction of the excellence of the result, and the accompanying paralysis of the mental judgment prevents an accurate realization of the true state of affairs. Those who earn their living by muscular exertion are particularly prone to this form of alcoholism, which going on from day to day soon turns into chronic alcoholism. The overworked brain worker begins to take his alcohol to relieve himself of the sense of intense weariness which his tired brain feels, and the rapidity with which moderate doses will give this relief and permit him to go on and do more work when he should rest soon forces him to increase the doses and creates a habit of overwork and excessive indulgence which soon brings

\*Read at a meeting of the Boston Medical Library and Suffolk District Medical Society on March 6, 1912.

him into the same chronic alcoholism. It is the relief from mental weariness that small doses oft repeated give that is the danger to this class, because it is the oft-repeated continuous dosage which in the daily total becomes excessive, and you cannot persuade a man that his own experience is not accurate and true, especially when the judgment has begun to deteriorate from steady indulgence. These individuals also become drunk from convivial drinking, but it is the daily, steady over-indulgence to spur them on which is the most responsible for the chronic alcoholism into which they fall and become useless in their occupation.

The class which I designated as the convivial drinkers, while they frequently show a greater amount of drunkenness than in the other classes, yet show a less amount of chronic alcoholism. The convivial drunkenness at more or less frequent intervals or more or less distant intervals, whichever it may be, does not tend to chronic alcoholism as the steady daily quota of alcohol does, and it is a very noticeable factor that in certain communities where industrial drinking is at a minimum there may be a great deal of drunkenness from convivial drinking, but there is much less chronic alcoholism than in communities where industrial alcoholism more extensively prevails. Of course any individual may through repeated indulgence of convivial excess acquire the habit of a sense of daily necessity of alcoholic stimulation, and may easily and soon drift into chronic poisoning, and these are the individuals which really form the connecting link between the first and third classes, because while they do not indulge in alcohol for the sake of accomplishing work, they do drift into chronic poisoning, and they usually are those who possess a congenitally sensitive nervous system to the poison of alcohol. The third class, of those who drink for the obliteration of sorrow and trouble, is made up largely of women, and especially those in the more comfortable circumstances of life. The women of the poor are often those who began in factories endeavoring to keep up with their work by the stimulation of alcohol, and after their married life they continue the habit to sustain them in the worry and struggle of their increasing families and increasing household cares. This class, as I have said, also includes those who possess a weak and non-resistant nervous system, whose character is such that they would go to excess in all things, and who cannot stand the wear and tear of existence and must turn to some form of narcotic. They are often the children of alcoholics, for the inheritance of alcohol shows itself in the weakened tone of moral character and weakened nervous energy in the offspring. They are often the offspring of a rugged, hard-drinking, hard-working father, who through tremendous power to work and drink succeeded splendidly in his day and generation, but the generation which he has begotten and leaves behind him is weak and neurotic. Little have we realized the tremendous strain and the amount of alcohol necessary to support it that has left behind its stigma in the succeeding generation. They may be classified

as shiftless poor, or vagrant rich, but alike they are the weaklings of civilization that turn to narcotics and are quickly and hopelessly poisoned thereby. Whatever the cause or whoever the individual, it makes no difference, the action of alcohol is the same, and small wonder that so many drift into its chronic poisoning. A substance so easily obtainable, which produces the physical sense of increased motor rapidity and increased ease of action, and at the same time blunts the mental ability to reason, to connect thoughts and ideas together and judge therefrom, small wonder is it that so many people should be blinded to the natural and inevitable consequences of their indulgence. Over-indulgence and chronic alcoholism is thus the logical sequence to the physiologic action of alcohol, and the physiologic effect on the mind is also the indication of the manner in which the mind will deteriorate under incessant poisoning. The highest mentality, that of the judgment, is the first to go; as it has often been said, the last to come is the first to go, and the first to come is the last to go. Judgment, reasoning, memory and strength of will is the usual order of deterioration, leaving naturally an emotional creature swayed by emotion and not reason, uncertain because of the weakness to do or to take the initiative. Finally, with the higher emotions gone, there remains nothing but fear and the primordial instincts of appetite and motor activity. To deal with and care for such a creature one must study and appreciate his psychology. We cannot judge these alcoholics by the psychology of the normal mind, and each individual varies in the amount of deterioration of each mental function, and there is an infinite variety expressed by the different individuals. The mind is poisoned and steadily poisoned by the continuous intake of the narcotic, and until we unpoison that mind we cannot hope to retain what remains of the original normal individual or to stop the progressive deterioration that is certainly, even if slowly, going on. It is useless to expect any one who is even slightly poisoned with alcohol to use his judgment accurately, and even if he still retains the power to bring up memories of ideas or events, to rearrange all in array before him in his endeavor to reason upon them, it is useless to expect him to judge as accurately under the alcohol as his normal self did before he was poisoned by it. He cannot do it, nor can he after a while even recall that which he formerly could do with ease. His memory is gone. The association of ideas is at fault. One thought will no longer recall another, and his memory, besides being defective, is also perverted and is further inaccurate from such perversion. With such a memory one cannot expect accuracy of statement in an alcoholic, and often what we put down to deliberate mis-statements is an unconscious ability to recall facts. To tell the truth accurately, one must have a good memory to recall the truth, and strength of will to tell it and stand by it, and the alcoholic possesses neither, and we therefore must not expect him to tell the truth. He cannot do so without the

assistance of a good memory, and this assistance is lacking. Neither can he be a good liar, for to be a good liar one must also have a good memory, and we cannot expect him to be consistent either in accidental mis-statements of facts or in his deliberate lies, and although the alcoholic may look upon a lie as a very present help in time of trouble, he uses it without judgment, and we must therefore realize that all his statements must be dealt with leniently as far as accuracy is concerned, for until his intellect is re-established he may be incapable of accurate statements, whether he is endeavoring to state a truth or state a falsehood. The weakened will prevents him from taking any initiative. He cannot force himself to do or to act at the right time. He is always beginning to think about getting ready to do, and he always has an abundance of excuses or reasons why he should or should not act, and why he should put off doing, and the weakened will is translated in the lack of decisive action and practically culminates in incessant excuses, usually of the flimsiest character. For practical purposes will and personality are inseparable, and it is the poisoning of the personality, the poisoning of the character, that we see expressed by this lack of initiative and lack of will power. The alcoholic cannot resist poisoning himself because he cannot resist the craving and desire produced by any narcotic for more of its kind, or some other kind, to allay the desire. He is not responsible for yielding to the temptation to drink further when once his personality is so poisoned, for he is dealing with an appetite and an emotion which has now become the strongest force in his character. Our sense of duty and our sense of obligation towards others as expressed by our affections are practically the highest types of emotion, and they are the last to be acquired in our racial development, and to the alcoholized brain they are consequently the first to go in the process of degeneration. The abstract duties of citizenship to the state or the community are the earliest to disappear, and the sense of responsibility to the home and to the family also disappear early in the line of destruction. You cannot expect to appeal to a man that he should or must do this or that when all sense of duty is gone. *Noblesse oblige* to the higher type of civilized being is a tremendous force, for it combines the sense of duty, pride in well doing, and self respect, and this combination will carry some men almost as far, and others farther, than any other emotion. If this combination of emotions is gone in the alcoholic, you have reached with him the stage where personal appeal to him ceases to exert any effect, and he falls from the amenable class of those who can voluntarily help aid themselves into that large class of mentally deficient beings who should be taken by the state and forcibly unpoisoned and retained until they are unpoisoned, or cared for as permanently useless members of society. With the annihilation of the higher affections toward family and friends, there remains the self-centered selfish care of self alone, and naught but cold-blooded self-indulgence

appeals. There remains, however, fear, and this emotion lasts longest of all. It is the predominant factor in the delirium of the alcoholic. It is the predominating factor in the motives of his remaining existence, and as fear grows, so will untruthfulness increase. All endeavor moves in the line of least resistance, and soon the only endeavor consists in how to gain the necessary amount of the narcotic to blot out the memory of what may remain of the past and the misery of the present, and they drink simply that they may obtain the oblivion of drunkenness. The picture of the psychology of alcoholism is an extremely hopeless one unless the progressive poisoning of the individual can be arrested. The hopefulness of it is that if you can take an individual and unpoison him, you never know how much can be regained, as the manifestations of the poisoned mind do not give any clue as to how much may be saved and reconstructed from the wreck. Of course where there is evidence of a permanent dementia, one cannot hope to reconstruct that intellect, but in the earlier stages down to the point where self respect and some spark of a sense of duty and pride remains, and this lasts long in some men, it is extraordinary to see how much can be done when the mind is unpoisoned and they are properly treated afterwards. There is no question that the deprivation from a narcotic is not equivalent to eliminating that narcotic from the body. Even after the physical desire and craving have gone by, there seems to remain a mental memory or a mental desire for that narcotic, and this mental picture persists long after it seems as if it must be gone. If a patient is taken and relieved of this desire by a thorough elimination of the narcotic, although he may feel weak he realizes that he is mentally and physically in need of reconstruction, and as long as the physical and mental craving for his narcotic is gone, he starts in on an absolutely new basis and realizes himself that he can be improved and that with proper physical and mental building up there is a chance for a permanent separation from narcotic indulgence. I have tried various methods of treatment and watched the effect of many other kinds. In the majority of hospitals to-day the treatment for alcoholism consists of a cathartic and a hypnotic, a square meal and some strychnine to steady them, and they are sent out from over-crowded wards to make room for others. This method has the advantage of protecting them during their periods of acute poisoning and of caring for them during the stages of its danger to themselves, but it practically results in making an enormous number into hospital rounders, which has become such a severe drain upon our hospitals and economic organizations and penal institutions. We are slowly emerging from the conception that a man with a mind poisoned by alcohol is necessarily a criminal, and that the way to unpoison his mind from his narcotic is to punish him, and that he needs punishment instead of medical treatment. He has been judged by the standards of the normal mind and not by the

standards of a diseased mentality. The treatment which was given to me by Mr. Charles B. Towns, and which I have published, I frankly admit is the one which seems in my experience to more quickly and thoroughly unpoison the mind and system from alcohol than any other treatment I have yet encountered. It hardly seems necessary to go into the details here. Briefly stated, it consists in the hourly dosage of a mixture of belladonna, hyoscyamus and xanthoxylum. This mixture is given every hour, day and night, for about fifty hours. There is also given about every twelve hours a vigorous catharsis of C C pills and blue mass. At the end of the treatment, when it is evident that there are abundant bilious stools, castor oil is given to clean out thoroughly the intestinal tract, and the reconstruction treatment of tonics is begun. During this treatment it is essential that each patient be treated as a separate individual. You cannot treat them in a mass as alcoholics. They are individuals differently poisoned, and each one with his separate idiosyncrasies. The older they are, and the more thoroughly poisoned by alcohol, the more you will have to stimulate them during the treatment, and the more slowly will you taper them off from their whiskey. The younger and more vigorous they are, the more quickly can you cut them off from their alcohol. The greater the poisoning and the more long-continued it has been, the more carefully will you watch them and quiet them with hypnotics. If the stomach is in a state of alcoholic gastritis, you will have to let this subside before you can begin your active medication. How this mixture of belladonna, hyoscyamus and xanthoxylum acts, I frankly do not know. If you leave any one of the ingredients out, the reaction of the cessation of desire is not as clear-cut as when the three are mixed together. The amount necessary to give is judged by the physiologic action of the belladonna it contains. When the face becomes flushed, the throat dry and the pupils of the eyes dilated, you must cut down your mixture or cease giving it altogether until these symptoms pass by. You must, however, push this mixture until these symptoms appear, or you will not obtain a clear-cut cessation of the desire for the narcotic. Patients who are very sensitive to mercury are difficult patients to treat, because the liver seems to require that peculiar action given to it by mercurial purges to be properly stirred and properly to excrete substances that are stored up in it, and finally be so stimulated that it pours out its bile in abundance and shows that the desired effect has been reached. The liver is the great chemical factory of the body, and the metabolism that goes on there is, in the great mass, still an unknown factor to us, but the method which is here outlined, though it may seem to you empirical, does produce the effect of a stimulation or rearrangement of the hepatic functions so that the metabolism of the individual comes back rapidly as near to normal as is possible for that individual. The patients realize and acknowl-

edge that they do not desire their narcotic, and they do not feel the need of it. In some of them, a small percentage, there is an actual physical disgust at the smell or sight of whiskey just after they are through with this treatment. Whether or not it is an auto-suggestion of an impressionable type of patient, I do not know. It probably is. It always has been a voluntary expression on the part of the patient. I have never suggested to one that such would occur. True it is that after they are through this treatment they are very much more sensitive to alcohol. Many who have been long accustomed to take without apparent effect a steady daily dosage of alcohol sufficient to intoxicate many others, have found after this treatment that a small amount of alcohol quickly affected them, and affected them beyond the physiologic action, so that they themselves realized that they were rapidly poisoned. As, for example, one man who reverted after I had given him the treatment, while previously he could go on a protracted hard spree of several weeks without having had delirium tremens, after a spree of not more than usual severity developed delirium tremens after three days. There is nothing in this treatment to prevent a man from going back to his alcohol. It sobers them up absolutely, it puts them on their feet in a condition so that they do not mentally or physically crave their narcotic, but as I have said before, there are no chaperone pills connected with the treatment by which they can be prevented from going back to their indulgence. The weakness of their will and personality, the weakness of their mentality, is not immediately fully reconstructed. The after-treatment, in my mind, is as important as the medicinal, and in my experience there is no question that those who go through a course of physical exercise and physical training for several weeks or months are those who soonest return the nearest to normal. The physical necessity of food, the building up by increased daily addition of new food, the burning up of waste products by exercise, and the proper elimination through this same muscular exercise, all bring about a rapid and vigorous building up of body and mind. To treat them as invalids, to treat these people as nervously down and nervously to be mollicoddled, is, in my opinion, a mistake. They should be treated as physical and mental wrecks, to be built up physically and mentally by as vigorous a process as each individual will stand without injury.

I have often been asked what figures I could show regarding the effect of this treatment. When I was giving it in Bellevue Hospital, I gave it to any one who came to me and desired the treatment. There was no endeavor to pick cases, there was no difference made because of the mental condition of the patient or of his previous habits or because of his possible return to unfavorable environment. There were 131 patients treated. Eighteen months afterward I endeavored to look up the records of these men; 43 could not be found; 2 were dead, and 1 was

insane. Of the 85 in whom we could judge accurately of the results, 67 had reverted and 18 had remained abstinent. That is, 78.8% had reverted and 21.2% had remained straight. This is the severest test that I know, and that one could succeed in the ordinary alcoholic wards of Bellevue Hospital in one fifth of the cases is a far better result than one could expect from the usual methods of treatment. Among those who have been given this treatment in a private institution during the past two years, having voluntarily sought the treatment, the results have been much more encouraging. Among these cases the percentage is practically reversed. In 375 patients there have been 46, or 12.2%, known relapses. It has not been possible to follow these patients as accurately as those in Bellevue, but even if we double the percentage of known relapses, the results are most encouraging.

The control of the alcoholic must always consist of the personal control and the state control. The control of one mind over another requires the confidence of the patient in the physician, and the ability of that physician to inspire more confidence in his patient than that patient himself possesses. It is a curious fact of the human mind that those who are weak and are struggling upward are never able to be any better than they think the man who is helping them expects them to be. They seem to be able to go as far as they think the mind on which they lean expects them to go, and they will endeavor to reach that limit, but rarely indeed do they seem to go further. When once they have regained their self-respect and have regained their former pride and vigor so that they can stand on their own individuality alone, then will they go to any limit of which they are individually capable. The control of these people needs infinite tact and never ending patience, and an unbounded supply of good nature. It is only by understanding the individual mind with which one is dealing and working out the psychology of the case where the individual is weak, and finding out in what direction they can be appealed to, that one succeeds in finally helping these patients back to a normal existence. Occupation of some kind with responsibility is absolutely necessary for success with the majority. The reverse of nothing to do and no responsibility to spur them on is a curse that will destroy most of these patients. There has been in the past a distressing lack of legal assistance to control these patients, due to the fact that public opinion would not sanction the deprivation of liberty from the individual. The public mind had not become educated to the fact that these patients were sick, poisoned and not criminals, and they had not become accustomed to the idea that one was justified in controlling such an individual as one would control a wildly delirious patient. The mind in active delirium is not in causal relationship with its past and cannot act intelligently, and must be protected against itself; so too, a mind poisoned by alcohol as soon as it has become degenerate has become also dis-

associated with its past as far as its possibility to react in a normal way, to the motives and incentives that appeal to the normal unpoisoned mind. This is gradually being realized, and to the honor of the state of Massachusetts it has been the first to lead in the state care of the inebriate. Those who voluntarily desire to be helped and go to the physician begging for aid to rid them of the growing poisoning are easily controlled and can be greatly benefited, and this type of patient is the one for which the treatment I have advocated has proved such a gratifying success, but these form a very small proportion of the total cases of chronic alcoholism, and we must, therefore, have some legal control by which the majority can be taken and properly treated. England realized this some years ago, and in 1879 began by having retreats to which people could voluntarily retire to rid themselves of their alcoholic habits, and this idea has proved so successful that now, besides the retreats, they have certified reformatories which receive drunkards from the court and state reformatories where the unmanageable drunkards delivered to them by the certified reformatories are treated. The commission appointed to investigate the workings of the inebriate's acts has more than ever become firmly convinced of the wisdom of the plan they are following, and has recommended further legislation along those lines. Some such plan as this must soon be followed by the various states in this Union. Of course you are all familiar with the workings of your own law in Massachusetts, and the results of the institution at Foxboro, and you are doubtless familiar with the recommendation of the Board of Trustees that this institution should be enlarged and the insane separated from the inebriate class, and this latter class put upon a farm colony. I do not know whether this recommendation has been followed out by your legislature or not, but it must surely come. The recommendation of the Foxboro Board of Trustees has been that the hospital for inebriates for men (1) should receive patients who come voluntarily or are committed upon application, (2) young habitual drunkards placed on probation by the court on the condition that they spend a specified period at the hospital, and (3) suitable cases transferred on parole from the detention colony. The hospital for women would receive patients who come voluntarily or who are committed upon application, cases placed on probation by the court on condition that they spend a specified period at the hospital. The detention colony would receive the non-criminal habitual drunkards from the criminal courts on indeterminate sentence. The criminal drunkards and the degenerates should still be cared for in penal or other suitable institutions. These recommendations are founded on sound common sense and must be followed to reach a successful solution of the problem of drunkenness. A discussion of this side of the question simply resolves itself into a discussion of the wisdom of deciding upon details for each community or each state, the main propositions

being practically axiomatic. As you also know, Iowa and Minnesota have also institutions for inebriates. Connecticut, Vermont, Pennsylvania, Maryland and Nebraska have laws which enable the relatives and friends of inebriates to secure their commitment in these special institutions, where they exist, and to insane hospitals or other institutions, where special institutions for inebriates have not been established. New York has passed an excellent inebriate law, and the trustees appointed under this act are now looking for a site whereon to place their farm colony. This is only for New York City, but it will relieve a situation that has become almost intolerable. The treatment in the hospitals, short sentences and commitment to penal institutions by the courts, has generated an enormous number of hospital and workhouse rounders who spend their time between on the outside getting drunk and on the inside serving sentence or serving time for non-payment of fines, and thus cheating the state out of its dues for their misdemeanors, and doubling the expense by keeping them when they should be out on parole paying the fine. All the forces which touch the chronic alcoholic in New York City have tended to perfect this vicious circle, and we have hopes that the present inebriate act for the city may break this circle and help solve the problem. There is no question that state control has become a necessity for the solution of the present situation.

The prognosis of the chronic alcoholic is an interesting one. My own experience does not include those who have been forcibly retained under state care, but there is no question that the state institutions have shown an encouragingly high percentage of beneficial results, Foxboro showing about half, or 49%, as remaining abstinent or greatly improved; Knoxville, Ia., showing 42%. Drawing from my own personal experience, I should say that those who have accidentally fallen into the habit of drinking, or who through occasional trouble and strain cannot resist the endeavor to relieve the weariness of existence by taking an occasional drink, and when once having tasted it are so quickly poisoned that they surely go to excess, form a class by themselves. They realize their danger and are the ones who seek the aid of the physician. If you unpoison these men of their alcohol, and give them a chance to go on without it, the prognosis is excellent. You can help the vast majority of these cases. In the industrial class of alcoholism, there are many men who are good workers, who through habit or through force of environment have drifted into chronic addiction, but who deserve to be rid of it and who could be much higher in their scale of living if they were more dependable, but who through drink cannot be depended upon. These men if treated, and I have cared for many of them, will also in the majority of cases remain abstinent. It is also true that, among industrial workers, modern machinery and the consequent greater strain of working with more skill and steadiness than formerly has tended toward sobriety, for it has

been a noticeable fact in industrial alcoholism that in work demanding skill and steadiness there has been a notable decrease of alcoholism, and alcoholism among these classes of workers has changed from the industrial steady drinker to convivial drunkenness after working hours. In this country the greatest danger to the industrial workers are among those who work intellectually more than muscularly, and the great drive and worry under which we live through the intensity of competition has created an almost greater danger to the intellectual worker than to those who work by physical strength. While the man who comes voluntarily and begs to be helped has always had the best prognosis, those who are willing to give you a chance to help them because their families desire it have a poor prognosis. There is no inherent desire on their part to stop, and this is especially true if the family and not the individual are paying the expense. None of these patients appreciate what they obtain unless they pay for it. All you do for them is like casting pearls before an unappreciative audience. The prognosis of the convivial drunkard depends largely on the state of public opinion in his environment. If he is in danger of losing caste by drunken sprees, he gradually tends to stop. If such sprees are sanctioned in his community, he usually continues. Many women who drink to excess, in the better classes, do so in the hope of obliterating sorrow or trouble, and the prognosis in them varies in ratio to their ability and willingness to face their existence without the aid of a narcotic.

The conjunction with other narcotics, such as tobacco and opium or its alkaloids, also changes the prognosis in the above groups. If a man has fallen into the habit of opium or morphine, and really desires to be free from it, you may be able to get him off his opiate and keep him off, and he still be not a total abstainer from alcohol, and fall through alcoholism. He is glad to be rid of the slavery of his opiate, but often his environment and the social functions connected with alcohol are too much for him. He may in the end, however, see this danger also, and come to the physician in an endeavor to finally drop the alcohol. The use of tobacco changes greatly the prognosis, and these conclusions have been formed in my mind against my previous prejudices. Among those classes of alcoholics who have otherwise an excellent prognosis, if the patient is a cigarette smoker, the chances are even that he will return to his alcoholism. If he smokes a pipe or a cigar, the chances are about 3 to 2 that he will not return. If he does not smoke at all, the chances are about 8 to 2 that he will not return. I have seen patients who, try as they would, could not resist the sudden desire to take the single drink that was their invariable undoing, but when made to drop their cigarettes, these recurrent waves of temptation ceased to occur. It is the constant nag of incessant small doses of tobacco that generates this uneasy craving desire that they cannot control, and if you remove this, you will enormously improve



the prognosis. The prognosis of those who are congenitally weak, those who form the class who cannot stand the strain of existence and turn to a narcotic as a support, is extremely poor. This is true whether it is, as I have said before, among the shiftless poor or the vagrant rich. If they have no steady occupation, with no responsibility to hold them, and with a natural inborn tendency to seek forgetfulness in narcotics, nothing but permanent care will avail. They are a class who are practically doomed for the scrap heap of humanity.

### Symposium.

## CONFERENCE ON "DISEASES AMONG SCHOOL CHILDREN AND THE REMEDY."\*

### INTRODUCTORY REMARKS.

BY EDWARD O. OTIS, M.D., BOSTON.

THIS meeting has been arranged in response to a request from the chairman of the Boston Consumptives' Hospital desiring our advice and assistance in regard to a communication received by him from his Honor Mayor Fitzgerald. In this communication of the Mayor's attention is called to the results of the examination of 42,750 public school children, reported by the chief of the Bureau of Child Hygiene of the Boston Board of Health. It was revealed by this examination that only 35% of the children examined were up to "physical par," while the remaining 65% were found to be defective or suffering from some definite disease more or less serious.

These facts, together with his Honor's letter, have already been made public and received attention in the newspapers. In his letter to the chairman of the Consumptives' Hospital, Mayor Fitzgerald requests him to examine into and report on "What the city may and should do to correct such physical defects in school children as have been or are likely to be found by the school medical inspectors," and it is the object of this meeting to render what assistance we may in the carrying out of this request. The facts surely call for the most serious consideration; and the sole purpose of this conference is to make, if possible, such practical suggestions as will aid in remedying this condition. We are not here to criticise things done or left undone, but with an earnest desire to help the situation if we are able.

Of course all the diseases and defects enumerated in Dr. Gallivan's report cannot be considered in one evening, the list is unfortunately too long for that; but the more prevalent and important ones will be discussed by the physicians — all experts in their several departments — who will address us to-night; and it is only through their regard for the public welfare that this meeting has been made possible. The first speaker hardly needs any introduction to a Boston

audience, Dr. Richard C. Cabot, physician of the Massachusetts General Hospital, and professor of medicine in the Harvard Medical School.

## DISEASES OF THE MOUTH, THROAT AND CHEST.

BY RICHARD C. CABOT, M.D., BOSTON.

I HAVE been asked to speak on what ought to be done to remedy defects found by examinations in relation to diseases of the throat, mouth and chest among children. I know nothing about the throat to speak of, and what I have to say will deal mostly with the chest.

The first thing I would say is that anything that effectively improves the health of school children is going to cost a good deal and increase taxes; we must make up our minds to bear that increased expense. All public health work is expensive if it does any good.

For the proper management of diseases of the throat, mouth and lungs, and of all other diseases in the schools, we need school clinics attached to and managed by the schools, where physicians shall diagnose and treat all diseases of school children unless their parents signify that they prefer the treatment of a private physician. It seems to me entirely irrational to have in the schools all the means of finding out defects among the children, and then do what amounts to leaving them unremedied. We now send children for treatment to the family physician, or to hospitals. The family physician will never be expert enough to know what adenoids are to be taken out and what left in. I don't believe that the family physician will ever be expert enough to recognize incipient tuberculosis or to know which cardiac murmurs mean heart disease and which do not. I have not the least idea that one of every forty-two children has heart disease, as the recent examinations of school children seem to show. I think the inspectors have done the best they could, but I doubt if so many children are really suffering from heart disease, and this illustrates what I mean when I say that it is impossible for practitioners not especially trained in those things to recognize and treat the defects of school children effectively.

If, on the other hand, the children have to be carried back and forth to the hospital, their condition cannot be observed minutely from day to day, as it could were clinics attached to the school. In the schools the children have to be present every day and so their condition could be checked up frequently in the clinics. Or if they are not there, but kept home by illness, the nurse can see them frequently in their homes and report to the school clinic doctor.

The central point in all these defects seems to me this, — that if you mean business, if you really mean to put so much time and money into these things, if the state is ready to pay physicians to diagnose diseases, then it ought to follow up diagnosis by treatment. Otherwise the money and bother spent on getting the diagnosis is largely wasted. Only in school clinics will treatment ever be effective.

\*The following papers were read under the auspices of the Boston Association for the Relief and Control of Tuberculosis, Jan. 31, 1912.

## MALNUTRITION.

BY GEORGE S. C. BADGER, M.D., BOSTON.

IN the report recently published by Dr. Wm. J. Gallivan, chief of the Division of Child Hygiene, of the result of school medical examinations of 42,750 school children, 1,611 were diagnosed as suffering from malnutrition, — approximately 4% of those examined. If this ratio holds good in the larger number to be examined, we must believe that approximately 4,000 school children are suffering from malnutrition. Three years ago an estimate of the number was made without careful physical examination, and the total of 5,000 was reached. From available statistics published from other cities in our own country and abroad the percentage varies from 5 to 15%. Large as is the number in our own city, it is smaller than in others.

What is meant by malnutrition? Really insufficient nutrition. The child is poorly developed, physically. He may be mentally unusually bright, but his physical appearance suggests frailty. He is often undersized, or tall and thin, delicate, perhaps anemic. He may not be actually ill or suffering from any disease. But his reserve force is slight, his resistance against disease slight. He is liable to get the prevailing sicknesses of childhood. He is a source of anxiety to his parents, teachers and the medical inspectors lest he may contract some severe organic disease or tuberculosis. The stress of school life is a strain on his physical or nervous energies. His absences from school are frequent and for more or less trivial things.

What are the causes of malnutrition? Rarely, I think, is there a single cause. We all recognize that acute diseases may be a cause, as pneumonia, diphtheria and scarlet fever. Children convalescent from these and other acute diseases are often a long time getting back to their normal weight and strength. But as a rule they do recover and the prognosis is good.

But the larger number of malnourished children are so from different and several causes. Heredity, improper feeding in infancy and early childhood and bad hygienic surroundings are the most potent factors in the malnutrition of school children.

Malnutrition may depend on inherited conditions. Some children are delicate from birth. They are made of poor stuff, their vitality is constantly low. The parents of these children may be of delicate constitution, or alcoholic, or the victims of syphilis or tuberculosis. In less civilized communities their children would not live to grow up.

Feeding during infancy is of vital importance to the future of the child. Normal breast feeding during the early months of life is a very great asset to the child in later years. Because of certain immune bodies in the mother's milk, breast children are less liable to disease than artificially fed children. Poor mothers who must work and, therefore, insufficiently or not at all nurse their babies deprive them of their

best and rightful food. Give the babies a good start and there will be less malnutrition when they arrive at school age.

So, too, through ignorance largely, many children after the first year are atrociously fed. They are given a man's diet or, even worse, whatever they see and cry for. Indigestion often results and malnutrition develops.

The hygienic surroundings of many children even during the first years of life are bad. The cramped living conditions are not favorable to proper development. Bad ventilation, too cold or too hot living rooms, are important factors, but most serious, I think, are the late hours many of these children are really compelled to keep. In the warm weather one sees them on the streets at eight or nine o'clock. In the winter they are perhaps asleep, but in a fitful sleep in hot, overlighted rooms where their parents are talking and entertaining. Their hours of sleep are greatly deficient.

These conditions are important to consider when we discuss malnutrition and its treatment. I do not believe that any considerable number of the 4,000 malnourished school children are so because they are going to school. The causes date back of the school age.

What is the present condition of our schools as regards the physical welfare of the pupils? The answer is that more intelligent attention is given to their physical welfare to-day than ever before. The new school buildings are infinitely better than the old ones, and in all more attention is given to ventilation than ever before. But even now not enough attention is given to it. The classes are smaller than formerly. The medical inspectors and nurses are a special force working for the physical well-being of those in the schools. Physical exercises are required under the best conditions obtainable in the rooms, open-air games in play grounds are instituted and cared for in Dr. Harrington's department. In a few schools open-air rooms have been established for the malnourished children. In other words, well-directed, intelligent efforts are being made not only to conserve the health of the children, and to prevent sickness, but to develop the children physically. A good beginning has been made, but much yet remains to be done. Enough has already been done to eliminate the schools, in my opinion, as a great factor in the causation of malnutrition.

Three years ago when the school physicians reported 5,000 children as suffering from malnutrition, a study of the home conditions was made by the school nurses. Of these 5,000 children, 3,500 were reported as coming from good homes and 1,500 from homes considered poor. Of these 5,000 children, 1,700 came to school without breakfast or with a very insufficient one, and of these 1,155, or 69%, were from the homes described as good. Poverty, at least in Boston, is not a common cause of malnutrition, if these figures are correct. One thousand seven hundred children came to school without breakfast, and 1,155 of them we know could have eaten a good

breakfast but they didn't,—in other words they would not. It is easy to say it is the fault of the children, but I think it is the result of many and repeated faults of the parents and these largely due to ignorance. One fact seems certain from this investigation made by the nurses: That poverty is not the real cause of malnutrition. This being so, there can be no real need of universal free school lunches.

What is the treatment for this condition of malnutrition in 4,000 school children? First, prevention by education of the whole community in the rules of good hygiene. This is being done slowly, to be sure, but it is being done. Our hospitals are not only treating the sick, but they are great educational institutions. The campaign against tuberculosis has already improved the hygienic conditions of living. The inspection of factories, foods and the legislation for shorter hours for women and children at work are all helping to reduce the number of malnourished school children. What more can be done in the schools? The answer to this most closely concerns the real reason of this meeting.

The open-air rooms must look after these children. There should be no halting in the establishment of these rooms until all the malnourished children are cared for. They should, when established, be very carefully supervised by the medical inspector. A lunch in the morning session should be served. It is a mistake to place children in an open-air room and not provide a lunch for them. Experience has already shown its necessity and benefit. The fear of its being an entering wedge for universal free lunches is, I think, wholly unfounded. The Advisory Committee on School Hygiene recommended that lunches should be served to these children. Experience has already proved that the parents will gladly pay for them. The exact number being known, it is possible to provide the necessary amount of food.

The present medical inspectors are doing a big work in examining the pupils; what will be done when they are through with these 4,000 malnourished ones? The combined efforts of medical inspectors, nurses, physical directors, teachers, masters and parents is essential for their proper care. A long step towards this will be made when all the medical forces dealing with the health of the school children are under one head. The present divided authority between the Board of Health and the School Committee cannot accomplish the best results. There will always be a considerable number of malnourished children in our schools. They present a difficult and serious problem and medical and school forces must act vigorously, intelligently and in harmony in order to get good results.

#### DISEASES OF THE SKIN.

BY C. MORTON SMITH, M.D.,

MR. CHAIRMAN, Ladies and Gentlemen: From Sept. 13 to Dec. 31, complete physical examinations were made in the schools, and 11,691 children with skin diseases were found.

The number was only exceeded by decayed teeth, hypertrophied tonsils, defective nasal breathing and enlarged cervical glands. One of the most frequent causes of enlarged glands in the neck is the presence of pediculosis (vermin) in the scalp, and this is classified as a skin disease. The association of pediculi, decayed teeth and enlarged glands in the same child is often very striking, showing a general lack of care.

Diseases of the skin hold an important place in point of numbers, and, moreover, the most common affections are contagious and a source of danger. These common diseases are scabies, pediculosis, impetigo and ringworm. Two are animal parasites, two are vegetable, and all contagious either by direct contact or by infected articles, towels, caps, etc. These four diseases were found in the schools no less than 6,428 times, or 55% of all the skin affections reported.

Of the non-contagious affections, all are more or less unsightly, while some are actually repulsive; such as warts, acne, blackheads, eczema and lupus. Some skin affections are easy to recognize, others are not. Patients often diagnose a well-marked case of scabies, while a case just developing is very often mistaken for an eczema. I confess surprise that the report showed only 220 cases of scabies against 1,360 of eczema. The relative frequency is at variance with other figures. For example, at the Dispensary during 1911 we had 922 new cases under fifteen years of age, of which 588, or 65%, were contagious, a little higher than the percentage in school.

However, there were 105 cases of scabies and only 115 cases of eczema, quite a different ratio from the school cases. The combined reports of the American Dermatological Association for five years give approximately 8% for scabies and 17% for eczema. I believe many of the children credited with eczema have scabies instead.

The function of the school doctor is to diagnose, not treat; and the duty of the nurse is to follow up the child until he is ready to return to school.

The attitude of parents towards the school physician is largely one of co-operation at the present time. I distinctly remember when such was not the case! I believe the majority of parents still take a personal interest in their children's welfare, and a note from the school calling attention to an unsuspected disease is often all that is necessary; the parent takes the child to the family physician, a hospital clinic or both. Another group is made up of parents who attend to their children's medical needs only after a varying amount of prodding by the nurse and the doctor, supplemented at times by the truant officer and the Health Department. Finally, there are the parents who are unable or unwilling to do anything. Here the nurse is obliged to spend much time in the home, showing how remedies should be applied, making sure they are used, and giving practical lessons in hygiene and personal cleanliness. She must also seek out possible carriers of contagion who are not in school. It not infrequently happens that the school child recovers only to be reinfected from

some one at home who remains uncured, perhaps untreated.

The examination revealed the presence in school of 5,257 children with pediculosis. At the hospital, mothers are apt to tell us how very clean they keep their children's heads, but "they get dirty things at school."

The above certainly shows there is still an opportunity. However, conditions are very much better now than they were before routine inspections were made. I examined a room full of children toward the close of my service in the schools and did not find even one child with nits. This condition was unique in my experience.

What can be done to still further improve conditions? The city is well supplied with hospitals maintaining skin clinics. This means adequate facilities for treating all the city's dependants. The problem, then, is to utilize these clinics with the least trouble and expense. This can only be done by the employment of more nurses. Every school district should have at least one nurse, and large districts in poor sections might well have an assistant nurse who would be in line for promotion. From the number of children with skin diseases, it seems that some special study of the subject would be of advantage to the school physicians. I would like to see an opportunity offered either by the medical schools or Massachusetts Medical Society, perhaps in conjunction with the annual meeting in June, whereby school physicians could see the common skin diseases in various stages of development. Mistakes are often made between seborrhea, which is not contagious, and a diffuse ringworm, which is. Scabies is often mistaken for eczema, and widespread infections result.

It is often hard to tell a small spored ringworm of the scalp, which is contagious, from an alopecia areata, which is not. Such questions are constantly arising and the school physician must decide whether or not the child can remain. I believe the municipal laboratory should examine specimens for the spores of ringworm. This would cause no increase in expense and would not add materially to the work of the laboratory, but would be of distinct value to the school physicians. Some of the modern schools have bathing facilities, and there are a certain number of city baths. I would like to see opportunities in each or some other place, where medicated baths could be given and the underclothing sterilized at the same time. Such a place would be of great service in the treatment of scabies and body lice. For instance, a small boy was brought to the hospital by a school nurse. The diagnosis in school was probable scabies. His hands and arms were so coated with dirt and grime that it was almost impossible to see his skin. He was told to bathe and apply the treatment and return. All he did was to return with no evidence of bath or treatment. Conditions continued the same, and the nurse worked very hard to improve the home. If there were some place where the nurse could take the boy, put him in soak, give a sulphur bath and sterilize

his clothes, more would be accomplished in an hour than was done in a month. Saturdays should be reserved for school children, but adults could patronize the place on other days. That there is need of such a place for adults is shown by the following: A man with body lice came to the clinic for a note to the public bath, certifying that he had "no contagious disease." Such a note could not be given and he was sent to the Wayfarers' Lodge to have a bath and his clothes sterilized. He went, but found that he would have to spend the night there. Not wishing to do that, he departed, and so far as known he and his parasites are still at large. It seems easy to tell a man to take a bath and have his underclothing boiled, but for many men who must live in cheap lodging houses it is well nigh impossible.

It is now known that typhus fever, once so prevalent, is due to the bite of the louse, which acts as host for the parasite of typhus, as the mosquito is the host for the parasite of malaria and yellow fever. Hence typhus no longer exists among the cleanly.

I would like to see some arrangement made whereby boys with pediculosis could have the hair clipped as often as necessary; in this way they would practically get rid of the trouble at once.

It would be an advantage to include ringworm of the scalp also, as treatment could be so much more effectively applied after the hair was clipped.

Some physicians recommend that girls wear "Dutch Cuts" up to the age of ten or twelve years for hygienic reasons.

I wish some method could be instituted whereby the worsted and Tam-o-Shanter caps so much worn by small boys and girls could be regularly sterilized. This would greatly lessen the danger of infection from wearing one another's caps and hanging them on each other's pegs in the coat rooms.

Common or roller towels should be done away with and either paper or individual towels substituted.

## ORTHOPEDIC DEFECTS AND RICKETS.

BY JOEL E. GOLDTHWAIT, M.D., BOSTON.

THE so-called orthopedic defects naturally group themselves into two classes, — those which are congenital and those which are acquired.

Of the former, clubbed feet, hare lip, congenital dislocation of the hip, lateral curvature of the spine due to imperfect vertebral development, with the many other less common malformations, would naturally be recognized, and the obvious effect upon the general health of the child, if appreciated, would lead to proper treatment. These conditions as a whole do not result in great disability, but may so interfere with the general development as to lower the vitality very materially.

Of the acquired defects, those which are rachitic in character, such as bow legs and knock

knee, are common, and should be corrected in so far as possible. The flat feet or the weak ankles should be corrected, and with these as with all of the other conditions the relation the particular defect has to the function of the body as a whole must be most carefully considered. This is particularly true of the abnormalities or defects as they concern the trunk, such as the acquired lateral curvature, the stoop shoulders, the rounded back, etc., since in this portion of the body are placed most of the important organs, and health or disease is many times determined by the ability or inability of these organs to perform their work rightly. The droop shoulder, the flat chest, the forward position of the head, the hollow lower and the rounded upper back, the relaxed and prominent abdomen, all are part of the type seen in a very large number of our school children. The type is seen less in the lower grades, but increases as the grades increase, and is an expression of fatigue. The vitality is so low that they easily succumb to the strains of their work or to the inroads of disease.

Naturally the causes of all these conditions should be studied and remedied in so far as possible, and in this most common type it should be remembered that the posture is an expression of fatigue. The cause of the fatigue may be under-feeding or poor conditions at home; it may be too little sleep; it may be too great physical demand in the way of work; it may be, and often is, the result of improper seating in school; it may be the result of improper adjustment of the clothing so that the strain drags the shoulder forward with the resulting droop of the whole body; it may be the result of the peculiar adjustment of the organs inside the body; it may be the result of excessive rapidity of growth with the naturally weak muscles; or it may be, and probably often is, the result of a too severe mental strain in the child trying to keep up with a curriculum framed for those physically more fit.

Of rickets in the school, naturally the active disease, as a rule, has passed by the time school age is reached, except in the rare cases of the adolescent rickets, so that the problem becomes simply the problem of the correction of the distortions or malformations which have resulted from the disease, with the recognition of the fact that since the disease is one of malnutrition, the cause of this malnutrition should be corrected.

#### NERVOUS AND MENTAL DISORDERS IN THE SCHOOLS.

BY ARTHUR WILLARD FAIRBANKS, M.D., BOSTON.

THAT nervous and mentally abnormal children exist in the public schools is of course an acknowledged fact. That the school system is responsible for this condition of affairs in the majority of instances, no careful student of the subject would for a moment maintain. That certain educational methods are, however, of influence in perpetuating, even if not in originating nervous and psychical abnormalities, and rendering relief of such conditions difficult, if not impossible,

is evident to all who have made any study of this class of disturbances in childhood. Some of these methods are the survival of a pernicious past, infinitely worse than the present in many ways. Others are due to recently instituted changes in the old system that indicate that they who are responsible for these innovations are not always cognizant of the mental and nervous capacity and the physical needs of the children under their care. I have been asked to give my views of what should be done to remedy, as far as it lies within the powers of the community to remedy, whatever defects, in the line of nervous or mental disturbances, are known to exist among the public school children of this city. I assume that the invitation to express my opinion was extended to me because of my work during the past ten years in the hospitals and institutions of this city in the study of the nervous and mental disorders peculiar to early life. I propose, therefore, to express my views frankly and fairly, as based on this work, and without prejudice or implied criticism of the school system in one community more than in any other. As the time is brief I shall proceed immediately with the recommendations that appear to me, as a result of this work, essential for even an approximate alleviation of the situation. The purport of these recommendations will render evident the conditions that I deem inimical to the best interests, from the nervous and mental standpoint, of the school children. It is not my province to enter deeply into the pedagogical aspects of the situation and the few suggestions I shall make along that line are tentatively offered as a possible expedient in the partial relief of a difficult problem. My recommendations are as follows:

1. The abolition of all competitive work.
2. The absolute abolition of either moral or material rewards for excellence in school work or attendance. This includes the hanging of flags on the doors of rooms showing the highest attendance for the week or month.
3. The elimination of special examinations, the passing of which is held essential as a requisite for promotion.
4. The making of promotion solely dependent upon the capacity shown by the individual child in its ordinary routine daily work, such promotion to occur whenever the child indicates its capacity for such advancement.
5. The elimination, as far as possible, of a fixed standard, either of grade or of graduation, to which children are expected to conform at definite periodical intervals, or at definite and arbitrarily fixed ages.
6. The elimination of report cards sent to parents, weekly or monthly, or at any other time.
7. The substitution in place of such formal and usually useless condemnatory or adulatory certificates (often considered by the child as either an irrevocable disgrace or a flattering testimonial of exceptional intellectual powers, as the report is bad or excellent), of more personal contact with the parents and the home, by means

of parents' associations and meetings, and social visitors; these two agents, working in conjunction with the school physicians and the nurses, to ascertain environmental or individual obstacles to the successful advancement of the child.

8. In those instances where the child shows but little capacity to advance along a single line, the institution of special instruction by special teachers, who, in very small classes, shall patiently and skillfully so place the subject before the children that their interest may be aroused. Any normal child may feel a repugnance to some particular department of learning, because they are not able to quickly catch the interest of that study, and its relationship to the everyday life of their own particular environment. Then, too, a particular teacher in a certain study, be they ever so competent to conduct a large class, will occasionally react unfavorably upon individual children, especially when the children in question are sensitive or diffident, although normal in other respects. I have repeatedly seen the influence of such a change on the psychical and nervous system, and consequently upon the advancement of a child.

9. The abolition of afternoon sessions for all grades below the fifth, or, if not the abolition of the sessions, then the entire devotion of this session to educative play without restraint, and limited to such activities as will permit of absolute unselfconscious freedom of movement and expression. In short, no child under ten should be required to engage in any restrained mental or physical occupation after twelve o'clock.

10. The assignment of the easiest studies for the afternoon sessions for all grades from the fifth upwards, and for the fifth and sixth grades the reservation of the last half of the day for exercises and demonstrations, lectures, readings, etc., that demand no immediate or individual response from the children. In short, I urgently recommend the elimination from the latter half of the day, of all recitations, all study hours, arbitrary memory exercises, mathematics, history data, geographical facts, grammar and language exercises and the commitment of rules to memory. If it were practicable all such abstract mental effort should be avoided, even for the last two grammar grades, during the late hours of the day, but this is, I believe, hardly feasible under the present system. Friedrich, Richter, Höpfner and Laser, in Germany, have shown by most careful experiments that for each hour of the day from eight o'clock onward, the capacity of accomplishment progressively diminishes and that actual mental and physical fatigue appear in accelerative ratio as each hour of the child's day passes. This fact so carefully proven by means of both mental and dynamic tests will be confirmed by every observant teacher on the basis of their own practical experience with their pupils.

11. The reduction of the time during which concentration of the attention of the pupils is required for any one subject.

12. The abolition of home lessons (usually

night work), requiring mere abstract reasoning or routine memory. This would admit the reading of stories or biography, and simple history tales, etc. I believe from my observation and experience with neurotic disturbances in childhood, that school life is inimical to child welfare because the system does not take into account the element of fatigue, the exhaustion of capacity (physical as well as mental), that is a physiological phenomenon in every human being, but especially in the period of childhood, for at this age there is little or no reserve of nervous or physical strength, because they are immature. This immaturity is an anatomical and physiological fact. In our attempt to develop a mature individual out of this immaturity and instability, we must not ignore the fact that we are engaged in a process of construction, and not in the exploitation of a perfected mechanism.

More spontaneity, more freedom of expression, less repression of the individuality, less suppression of emotion, more freedom of movement, greater play of originality and imagination, will lead in the long run to a more perfect and useful human being than the rigidity and fatiguing complexity of the present educational tendency. While the immature child has no reserve of nerve force to draw upon for long-continued and complex application, the very immaturity of the nervous system gives rise to innumerable impulses, to lively imagination, and to spontaneous play of feeling, that produces the characteristic unself-consciousness and spontaneity that is so much admired in children under school age. Our mistake is to suddenly demand the complete suppression of spontaneity and individuality the moment the child enters the threshold of our educational institutions. Still more fatal is it to demand the same uniform submission from all children, both the reasonably normal and elastic, and the absolutely abnormal and neurotic child. Add to this long-enduring suppression, the goad of ambition and competition, and the elements of pride and shame, and it cannot appear remarkable that we see their effects on the nervous system of the school children. I believe the time will come when radical changes will be made in the system of education at present in vogue for children under sixteen.

In a certain class of nervous and psychical disturbances in school children sexual influences play an important rôle. This problem must be faced, and faced squarely and frankly. Here it is the adult, not the child, who is at variance with the normal, in fearing to meet this subject on the same basis as any other physiological truth. There are few of us who can really tell what it is that we fear, when confronted by the necessity of protecting the developing human being from the results of ignorance of natural processes that it is its right to understand. Mystery, and above all the element of fear, must be carefully avoided in dealing with this problem.

The subject of the prevalence of intellectual defects in the school is a very different and much more difficult one, and it is a much more serious



problem than can be realized by any one not in close touch with the situation. We have here to deal not merely with a physiologically immature mechanism, but with a pathologically defective one. In other words, we are dealing with a mechanism not merely functionally disturbed, but organically defective. Here, therefore, there is no question of permanent alleviation of the disturbance by any change in our educational system, but only a necessity of supplying for these children special facilities adapted to their limited powers of comprehension. The first and absolutely imperative necessity is the establishment by the state of additional facilities for the admission and permanent care of all low and medium grade mentally defective children. Their place is not in the public schools. Great as the burden to the state may seem in adequately meeting the situation, infinitely greater is the burden to our school system and to the community, and ultimately to the state, in permitting the present state of affairs to go on. All of these well-marked cases will ultimately have to be cared for by the community; if not mercifully in schools and protective institutions, then eventually in prisons, reformatories and poor houses, with, in the meantime, all the additional burden, suffering, danger and handicap to the community (and to our schools) that the unrestricted freedom of these irresponsible and hopelessly incompetent children entails. Once these hopelessly dependent children are cared for, special instruction by specially trained teachers should be instituted for all of the lighter grade cases of mental deficiency. This our city is manfully striving to do, and every credit should be given to the wise foresight that is directing this work. Provision, I understand, has recently been made for double the number of classes originally planned. This is admirable wisdom in the most urgent direction. Many of these children under the influence of this special training will eventually be able to either entirely support themselves, or at least to contribute in some measure to their support instead of constituting a hopeless burden to their families or to the community. I cannot recommend too strongly that the community support, in every possible way, the authorities in their further development of these special classes for hopeful cases, and the efforts that are being made to increase the state's accommodations for the hopeless defectives.

We now come to the consideration of a class of children who especially merit the sympathy and attention of the authorities in charge of child training and development. These are individuals who are not intrinsically intellectually defective, but are for many reasons unable to compete in large classes with their fellows in the acquisition of knowledge under the system at present enforced. Most of these children have the capacity to learn, and to hold what they acquire, and to employ this knowledge practically and rationally, but they are slower to grasp the principles of a subject as taught in the abstract to large classes. They require more individual instruction and

closer association with their instructors than is possible in the crowded class-rooms of our schools. Oftentimes this difficulty in mastering knowledge applies to only one or perhaps two subjects. Yet the effect of the chagrin and discouragement due to this difficulty may exert lasting effect on the whole subsequent career of the individual. It is among such children that I see in my hospital and private work some of the most pathetic and disastrous effects of our present school system. I believe it possible and urgently advisable that these children be given additional instruction in small groups, by special teachers outside of the regular school hours, for instance on Saturday forenoons, such instruction being such as to attract their interest and appeal to practical and concrete, rather than to abstract and purely mental, reasoning. Children from several districts could be thus brought together occasionally so that no great increase of the teaching force, if any at all, would be necessary. The small additional expense to the community thus involved would be immeasurably repaid by a higher standard of efficiency and a more general and symmetrical development of its future citizens. The recent move to reduce the size of the classes is most wise and necessary, but every teacher would be able to handle large classes if some of their burden were lightened in this way. We must constantly keep in mind that all individuals vary considerably in their capacity to acquire knowledge of various kinds, and that close personal association, bringing with it, as it usually does, interest and mutual sympathy, is the very best of instructors, and that many children, sensitive and diffident when their apparent ignorance and slowness is exposed to the gaze of their fellow classmates, will respond successfully to sympathetic close personal association with their teacher. It is because I have so often seen chagrin and disappointment, discouragement and shame, and consequent worry and overstrain, produce disastrous effects on the psychical and nervous health of children, that I venture, in closing my remarks, to touch upon what might be regarded as purely a pedagogical problem.

### Clinical Department.

#### BLOOD TRANSFUSION FOR HEMORRHAGIC DISEASE OF THE NEWBORN: THE USE OF THE EXTERNAL JUGULAR VEIN IN INFANTS.

BY BETH VINCENT, M.D., BOSTON,

Surgeon to the Infants' Hospital; Surgeon to Out-Patients, Massachusetts General Hospital; Assistant in Surgery, Harvard Medical School.

In a recent paper entitled "Blood Transfusion in Infants by Means of Glass Tubes,"<sup>1</sup> I have explained in detail the preparation of coated glass tubes and described the technic of their use in transfusions. The paper also contains the result of some experimental work on this

<sup>1</sup> Am. Jour. Dis. Child., May, 1911, vol. i, pp. 376-381.

subject and the report of three cases which illustrate the practical application of the tubes. One was a case of hemorrhage after operation, and the other two were cases of hemorrhagic disease of the newborn.

In the present paper I wish to add to this group the report of four more cases of hemorrhagic disease of the newborn in order to emphasize the striking result of blood transfusion in this disease and to describe a variation in the technic which shortens and simplifies the operation in infants. In my first three cases the donor's radial artery was connected by a glass tube with the infant's femoral vein, as this vessel seemed to be the most accessible vein of sufficient size in a baby. These operations were carried out successfully, but I found that certain difficulties in the operation were due to the awkward position of the femoral vein, its depth, and the numerous branches. This experience led me to search for a more superficial large vein. The examination of many infants has demonstrated that the external jugular vein is more easily located and larger than the other superficial veins in a baby. I have used this vessel in the last four cases and find that it is as large as the femoral vein in an infant, or larger, and has no troublesome branches. Its position just beneath the skin makes the exposure of the vein and the insertion of the glass tube a comparatively simple matter. If the tube is about 12 cm. long, it will extend beyond the infant's head, and the donor's artery can be easily connected to the upper end.

By this method the blood is transmitted almost directly into the infant's heart. In transfusing animals the same vessel in the neck has been used frequently without embarrassing the action of the heart. A similar method of direct injection can be applied to infants without danger, notwithstanding the disproportion in size between a donor weighing 160 lb. and an 8 lb. baby, if the inflow is controlled by pressure on the adult's artery. At times it may be necessary to check the flow entirely for a few seconds to allow the infant's heart to recover from a temporary dilatation. In one of the transfusions reported in this paper, when the blood ran too rapidly, it was found that the pulse of the recipient became slower and weaker until it was imperceptible at the wrist, but as soon as the transfusion was stopped for a few seconds, the baby's heart quickly overcame the distention and the pulse returned to normal.

#### CASE REPORTS.

CASE I. The patient was born on Oct. 18, 1911, low forceps delivery by Dr. Robert M. Green. The infant weighed 6½ lb. at birth and appeared in every way to be a normal female child. She took the breast well and passed three normal meconium movements during the first two days. On the third day at 8.30 A.M. the infant passed a stool containing bright red blood. Similar movements, consisting almost wholly of red blood, were passed at 9 and 10.30 A.M.

At 10 A.M. rabbit serum—30 ccm.—was injected subcutaneously and at 12.30 2 oz. of a 2% gelatine solution were given by rectum. This injection was at once expelled with a fourth large movement consisting

of bright red blood. During the morning the infant received 11 mm. of paregoric and at 1.45 P.M., gr. 1-64 of morphine.

When examined at 3 P.M. the infant was very pale, although there was still some color in the lips. A pulse of poor quality could be counted between 150 and 160 at the wrist. Heart, lungs and abdomen were normal. There was no sign of bleeding from the nose, mouth or umbilicus. The umbilical stump was clean. The skin about the anus was stained with fresh blood, but there were no subcutaneous hemorrhages. The infant's general condition was poor and it had grown worse so rapidly in the last two hours that it seemed best to do a blood transfusion as soon as possible.

The father served as donor and his left radial artery was isolated under cocaine in the usual manner. The infant did not require ether. The external jugular vein was exposed through a ½-inch transverse incision which was made in a fold in the skin about the middle of the neck on the left side. In the collapsed state this vessel, which has thin walls, appeared to be very small, but when the lumen was exposed it proved to be as large as the femoral vein or even larger. A coated glass tube was then tied into the vein, following the technic which I have described in detail in the previous paper. The tube was 12 cm. long and the end which was inserted into the vein was about 2½ mm. in diameter, a little smaller than any of the tubes which I have used in other cases. The blood was allowed to flow in this case for five minutes. The force of the donor's blood stream was slightly diminished by pressure on the artery, and from time to time the flow was checked for a few seconds to prevent a too rapid filling of the infant's heart.

The transfusion was continued until the infant's face had regained its normal color. After ligating the vein the wound in the neck was closed with two plain catgut sutures and covered with a small cocoon. At the end of the operation the baby had a full pulse of 120.

On the following day two large dejections of dark blood were passed. The child took whey and breast milk eagerly and thirty-six hours after the transfusion began to have normal fecal movements. There was no sign of further hemorrhage and the infant has been in perfect health up to the present time, five months after birth.

CASE II. The infant in this case, a patient of Dr. Charles H. Hare's, was born on Dec. 18, 1911, weighed 9 lb. at birth, and seemed to be a normal girl baby. She was breast fed and had normal movements up to Dec. 20, 1911. On this day at 7 A.M. there was a small hemorrhage from the mouth. Two and one-half hours later this was repeated in larger amount. At 11.30 A.M. the baby passed a dark bloody movement which soaked through two napkins, a flannel robe and a pad on the bed. At noon she bled again from the mouth and at 4 P.M. had another movement of dark blood. During the afternoon rabbit serum, 15 ccm., was given twice subcutaneously.

Up to this time the infant's condition had shown little change, but in the evening it began to fail and the pulse went to 160. At 9 P.M. there was a third large movement containing bright red blood. The patient was seen by Dr. John L. Morse at 10.30 P.M. and when examined another bloody movement was found in the napkin.

The baby was very pale and had a pinched look about the face. The pulse was 160 at the wrist and of poor quality, but the child had a fairly strong cry. Heart, lungs and abdomen were negative. There was no staining on the cord dressing. Mouth and throat were negative and there were no hemorrhages in the

skin. The temperature was not taken. In view of the repeated intestinal hemorrhages and their evident effect on the child's condition, it was agreed that a blood transfusion was necessary. It seemed best not to move the patient, and the operation was done in the house by aid of electric light.

The father served as donor and his left radial artery was exposed under cocaine. The infant received gr. 1-64 of morphine fifteen minutes before the operation. The left external jugular vein was isolated under light ether and the father's artery and this vein connected by the same coated tube which had been used in the previous case. In this case the blood ran for six minutes before the baby's face showed a normal color. It was necessary to stop the flow at intervals when the pulse indicated that the blood was being transfused too rapidly. It was found that the full arterial stream would, after a time, first retard, then weaken and finally obliterate the infant's pulse. With this precaution there was no difficulty in completing the transfusion. The pulse at the end of the operation was 120 and of good quality. The small transverse wound in the neck was closed with one catgut stitch. In this case no particular effort was made to hurry the operation. It took all together fifty-five minutes and the infant was on the operation table from fifteen to twenty minutes of this time.

The convalescence followed the usual course. The child took water and breast milk the next day. In the morning there were two large dark movements, the last of which showed a little red color. The morning temperature was 103.8 (rectal) and the pulse 140. The child took nourishment well during the day and in the night passed a stool containing some fecal matter. On the second day after the transfusion the temperature was normal, the infant nursed well and had fecal movements without blood. There was no recurrence of hemorrhage and the baby, now three months of age, has been in perfect health up to the present time.

**CASE III.** The patient was born of healthy parents on March 16, 1912, high forceps delivery by Dr. Edwin Sever, Jr., of New Bedford. The mother had previously given birth to two healthy children, the youngest of which was eleven years old. Family history otherwise negative. The child weighed 9 lb. at birth, was breast fed and appeared to be an unusually robust normal infant up to March 18.

During this day there was a little bleeding from one nostril and a few small subcutaneous hemorrhages appeared in the scalp. A small amount of blood was vomited in the evening. The next morning a dark spot was seen under the skin on the right cheek. In a few hours this hemorrhagic area rapidly increased in size and a large hematoma formed in the deep tissues of the cheek. At 7 A.M. the infant passed a stool of bright red blood. This was followed by four other bloody movements; the last movement, also of fresh blood, occurred at 10 P.M., while preparations were being made for transfusion. The baby vomited a little blood during the day and had some bleeding from the umbilicus. The morning and evening temperatures on the second day were 102° and 100°; on the third day, 100° and 99.8°.

The case was seen in consultation by Dr. C. A. Pratt, of New Bedford, who recommended blood transfusion.

**Physical examination.**—A well-developed and nourished male baby. Superficial tissues somewhat shrunken but not pale. Pulse, 120-130, counted with difficulty at the wrist. Heart, lungs and abdomen negative. On the scalp and on the right knee there were a few small areas of ecchymosis. The right cheek was made prominent by a diffuse swelling which

was soft but not tender. The overlying skin was normal, the subcutaneous tissues had a bluish tinge. The buccal surface of the cheek was almost black in color. There was no bleeding from the nose or mouth. The umbilicus was moist, but there was no odor. Its dressing was stained with the blood of a recent hemorrhage. The napkin contained a movement of about 1½ oz. of fresh blood which was passed during the examination. While the infant was not exsanguinated and the general condition was fair, in view of the multiple sources of bleeding and the persistence of the intestinal hemorrhages it seemed advisable to do a blood transfusion to check the hemorrhages.

**Operation.**—The father served as donor and his left radial artery was isolated in the usual manner. The infant was given morphia, gr. 1-64, and the left external jugular vein was exposed under light ether anesthesia. This vein and the father's artery were then connected by a coated glass tube, 12 cm. long, as has been described in the previous operations. The donor was a large man with a pulse of good volume and the small amount of blood needed by this infant was quickly transmitted. The blood ran for three minutes. At the end of the transfusion the baby was a little dusky but regained a normal color as soon as the head was elevated. The pulse was 105 and of good quality after the operation.

During the night the baby nursed at the breast. One black movement was passed the next day. Fecal matter appeared in a stool eighteen hours after operation. A general urticarial eruption, which resembled an antitoxin rash, developed forty-eight hours after the transfusion and faded in a few days. There were no more hemorrhages. The swelling in the cheek gradually subsided and within a few days after the operation the infant was taking nourishment well and gaining weight in a normal manner.

**CASE IV.** The patient was born, normal delivery, on March 18, 1912, at the Boston Lying-In Hospital, in the service of Dr. Charles M. Green. The child weighed 8 lb. 6 oz. at birth, was breast fed and had normal movements until March 22. The family history was negative.

In this case the hemorrhages began on the fourth day and continued until the afternoon of the fifth day, when blood transfusion was performed. Throughout the illness the bleeding was confined to the gastrointestinal tract and manifested itself chiefly by repeated bloody stools. The first movement of blood was found at 9 A.M. on the fourth day. Within twenty-four hours there were seven such stools. The infant was given rabbit serum subcutaneously in three doses of 15 ccm. each and 5 mm. of paregoric every four hours. The next day the hemorrhages continued and three more dejections of blood were passed up to the time of operation. All the movements, including the last one, which was passed on the operating table, consisted of bright red blood. The baby vomited blood twice on the fourth day. There was no temperature. The pulse gradually quickened as the child became weakened by the successive hemorrhages.

**Physical examination.**—A well-developed, pale baby. Pulse at the wrist, 150, and of poor quality. Heart, lungs and abdomen negative. No subcutaneous ecchymosis. Umbilical stump dry and clean. Napkins containing recent movements showed a large amount of fresh blood. The red count was 2,800,000 and hemoglobin 70%, Tallquist scale. The child refused nourishment and had failed rapidly in the last twenty-four hours. Transfusion was done as soon as the donor could be secured.

**Operation.**—The father served as donor. Following the technic of former operations, the donor's left

radial artery was connected with the recipient's right external jugular vein by a coated glass tube 12 cm. long. The infant received morphia gr. 1-60 and no other anesthetic was required during the operation. The actual duration of the transfusion was three minutes.

As the father was an unusually good subject in this instance, a vein in his forearm was first exposed in the hope that a vein-to-vein transfusion might be done in order to simplify the operation for the donor. But even with the venous return completely blocked by a tourniquet, the pressure in the vein did not seem sufficient to warrant the attempt in view of the child's poor condition. Rather than risk the delay of a failure this method was abandoned for the certain artery-to-vein procedure.

In this case the right instead of the left external jugular vein was exposed and it was found that the use of vein and artery of opposite sides facilitated the ease of uniting the two vessels.

The post-operative course followed that of the previous cases. The infant took breast milk from the bottle in the evening. The next day four tarry movements were passed and fecal matter appeared in the stools thirty-six hours after operation. The red count twenty-four hours after transfusion was 4,200,000. The hemorrhages did not recur and the infant left the hospital in normal health four days after operation.

#### SUMMARY.

These seven cases show that infants may be transfused with safety and without great difficulty by means of coated glass tubes of proper length and size.

Experience in the last four cases has convinced the writer that the external jugular vein is the best vein to use in transfusing infants.

The result of the operation in the six cases of hemorrhagic disease of the newborn confirms the conclusion of other men that this disease can be cured by blood transfusion.

### Medical Progress.

#### PROGRESS IN INTERNAL MEDICINE: DISEASES OF THE HEART.

BY FRANCIS W. PALFREY, M.D., BOSTON.

IN December, 1908, there was published in this JOURNAL an article on "Progress in Diseases of the Heart"<sup>1</sup> describing an epoch in the study of the heart characterized chiefly by the extensive application of physiological methods to clinical investigations. For advances up to that time the reader is referred to that earlier article. But the movement has since progressed so rapidly that at present no subject in internal medicine so urgently demands a further report. For this reason the present review of literature has been undertaken. This report must of necessity be somewhat fragmentary and disconnected in form, since the contributions of any one short period, while they touch upon a wide range of subjects, in few instances among the many disputed and uncertain questions do more than tinge the picture previously outlined, or tentatively suggest corrections, and communications upon sub-

jects previously untouched merely present sketch-like beginnings. Yet in total summation the published findings of recent years are of such importance that it is hoped that a condensed statement of them may be of interest.

A general survey of the field permits certain observations as to the trend of recent work. The wide application of exact methods has continued, and the pursuit of laboratory experimentation has increased. But a general tendency is apparent toward complexity of methods. The previous period introduced the use of the simple and portable polygraph by which any physician could take tracings even in the patient's home. Recent years have been marked by the introduction of the elaborate and ponderous electrocardiograph, the expense of which is further prohibitive to its wide application. Thus it is probable that for the chief advances in the future we must look to the institutions connected with laboratories of research. Yet it is not alone in new directions that progress has been made. Studies of the older type have been pursued with no less vigor.

#### METHODS OF RESEARCH AND DIAGNOSTIC AIDS.

The direction taken by research at any epoch is commonly determined by the methods at command, and, as has already been hinted, the study of diseases of the heart in recent years has been a fair illustration of this fact.

The most important newly applied device has been the electrocardiograph, the string galvanometer of Einthoven,<sup>2</sup> first introduced in 1903, but first figuring prominently in medical literature in 1908-9. This instrument<sup>3</sup> is an extremely delicate and complex apparatus for recording delicate electric currents. Briefly stated, it consists of a sensitive thread so arranged between the poles of a magnet that the passage of electric currents led to it by connecting wires cause slight movements, which are recorded by throwing the shadow of the string from the light of an arc lamp through a microscope on to a moving photographic film. Its clinical use depends upon the fact that the heart, like other muscles, in receiving stimuli to contraction becomes electrically negative at the point which first receives the stimulus with reference to points to which the stimulus is later to be transmitted. Thus, for instance, as the ventricles receive their stimulus to contraction from the auricles, the base of the ventricle becomes negative to the apex and a so-called *action current* is produced. If, therefore, the galvanometer is connected with one pole nearer the base of the heart and the other nearer the apex, this action current can be detected and recorded. In practice the two connections are commonly made with the right arm and the left leg, and the curves recorded on the developed film at the conclusion of the experiment show in normal cases a characteristic series of waves, and in abnormal cases the curves may be correspondingly abnormal. Thus a new criterion of the heart's action has been obtained, giving evidence of an entirely new phase of its function,

since the test is one not of contraction but of the reception of stimuli which precede contraction.

The normal electrocardiogram curve is composed of three upward and two negative waves. The first of the upward waves (P) indicates the action current of the auricle, preceding by a few hundredths of a second the contraction of the auricle. The next up-wave (R) precedes the ventricular systole by about the same interval and is, as a rule, the most conspicuous feature of the curve. It is preceded by a slight and variable down-stroke (Q) and followed immediately by a more marked but also variable down-stroke (S). After a longer interval appears the third elevation (T) which just precedes the termination of systole and the second sound. Of all these waves, only the first has to do with auricular action, all the others remaining together even when the actions of auricles and ventricles are completely dissociated. Thus by an electrocardiogram one obtains separately the evidence of action of auricles and of ventricles. Moreover, by variations in the form, particularly of ventricular curves, inferences may be drawn as to the origin and course of the stimulus.

Much discussion has naturally appeared as to the value of this procedure both in research and in practical diagnosis, as well as of the meaning of individual findings. As to this, final conclusions are not yet warranted. It was undoubtedly a mistake of early enthusiasm to maintain as was done by certain authors that every form of heart disease, even the valvular, had its characteristic type of electrocardiogram. Too much attention has probably been devoted to minute variations of form of waves which can show wide normal variations. The method is one which is based primarily upon functions of the myocardium, and is, therefore, chiefly applicable to the study of disorders of myocardial action. As an indication of exact time relations it undoubtedly surpasses our previous graphic methods, and as a means of detecting abnormalities of ventricular action it has at least in some instances revealed conditions not demonstrable in any other way.

The earlier method of simultaneous mechanical tracings has also been the basis of much work. Its value, however, has been in evidence more in the confirmation of observations already reported than in the detection of new phenomena. Yet mechanical tracings still play a large part in the careful study of any obscure condition, either alone or in connection with the electrocardiogram. Attention must be called to the epoch-making publication of Mackenzie,<sup>4</sup> which, while not recent at present, still had not come to hand at the date of the last Report on Progress in this subject, and to the able compilation of Hirschfelder,<sup>5</sup> in which the teachings described are largely based on this method. Of more recent reports the most noteworthy are the clinical studies of Edens<sup>6</sup> and the experimental work of Rihl.<sup>7</sup> Registration of pulsations of the left auricle by the esophageal route has been accomplished by Rautenberg,<sup>8</sup> Janowski<sup>9</sup> and others. Pezzi and Sabri<sup>10</sup> have emphasized the advantage of apex

tracings taken by the method of Panchon with the patient lying on the left side. Crehore and Meara<sup>11</sup> have produced an entirely new method of registration of slight movements and vibrations by means of light-interference rings from which curves may be reconstructed. Joachim and Weiss,<sup>12</sup> v. Wyss<sup>13</sup> and Ohm<sup>14</sup> have made photographic records representing heart sounds and murmurs.

The increasing application of experimental research to clinical problems is also in evidence, furnishing some of the most important contributions.

X-ray examinations and orthodiagraphy have been largely employed in outlining the heart,<sup>15</sup> as a control to percussion, with general confirmation of v. Moritz's<sup>16</sup> findings previously reviewed. v. Koranyi and Ellischer<sup>17</sup> and also Weber<sup>18</sup> have devised methods of photographing a heart in single phases of its cycle; Weber<sup>19</sup> has also obtained kinematographs.

Geigel<sup>20</sup> has studied the minimum interval between sounds that can be appreciated by auscultation. He finds that a difference in time of six to seven thousandths of a second will render two sounds distinguishable as a double sound, while with any less interval both are appreciated as a single or as a split sound. Wiesel<sup>21</sup> has studied the behavior of second sounds under variations of pressure closing semilunar valves. He finds that to produce equal sounds in the aortic and in the pulmonic valves different pressures are required; also that the pulmonic second sound is much more sensitive to changes of pressure than the aortic since increases of pressure of much less degree are able to strengthen it; increases of pressure beyond a definite degree give the sound a ringing quality. Thayer<sup>22</sup> has further discussed the third heart sound.

Leoncini<sup>23</sup> has described a murmur produced in the jugular vein transmitted to the chest and simulating a heart murmur.

Bittorf<sup>24</sup> has described the occurrence in the urine of cells characteristic of passive congestion of the kidneys, analogous to the *herzfehlerzellen* of sputum.

Of blood pressure methods most worthy of mention is the general confirmation and wide application of Korotkow's auscultatory determination of diastolic pressure.<sup>25</sup> Moritz and v. Tabora<sup>26</sup> have devised a method of determining venous pressure. No reliable method of testing heart functional capacity has yet been obtained; according to Beck and Selig,<sup>27</sup> the blood pressure tests give evidence of efficiency of heart muscle rather than of the heart as a whole.

#### ANATOMY AND PHYSIOLOGY.

The observation of new phenomena in clinical studies of the heart has naturally led to renewed attention to the finer anatomy and physiology in efforts to explain these phenomena. As clinical studies have undertaken to reveal not only the action of the ventricles, but also that of the auricles, and the co-ordination between



auricles and ventricles, new researches have been made as to the origin of the heart beat and of the course of its propagation. It was nearly twenty years ago, it is true, that the anatomical muscular connection between auricles and ventricles was first demonstrated. It was less than ten years ago, however, that this structure was first connected with pathological physiology, by Wenckebach and by Erlanger. Since then the auriculo-ventricular bundle of His has been more closely studied, notably by Tawara,<sup>28</sup> and still more recently by Monckeberg<sup>29</sup> and others. Furthermore, Keith and Flack<sup>30</sup> have described a structure in the region in which it has already been taught by Wenckebach that the production of stimuli to contraction occurred near the mouth of the superior vena cava in the right auricle, and the observation is confirmed by W. Koch.<sup>31</sup> As a result of these researches we now have anatomical knowledge of the following specialized portions of the myocardium which seem to be of functional importance. (1) The so-called sino-auricular node of Keith and Flack which is believed to be the normal origin of heart beats. (2) The auriculo-ventricular node of Tawara at the auricular origin of the auriculo-ventricular bundle at the base of the interauricular septum. (3) The auriculo-ventricular bundle of His, extending forward and downward from the node of Tawara through the fibrous tissue which separates auricles from ventricles to the inter-ventricular septum, where it divides into right and left primary branches leading to the bases of the papillary muscles. The present teaching as to the physiology of the heart beat is that the stimulus arises in the sino-auricular node and thence passes over the auricle not following any definite conduction path\*; that the stimulus is received by the auriculo-ventricular node and thence transmitted through the auriculo-ventricular bundle to call forth the contraction of the ventricle. The function of stimulus production, however, is not one possessed exclusively by the sino-auricular node, being apparently there developed only to a relatively higher degree than elsewhere, since while some authors<sup>32</sup> have observed cessation of the heart beat on excision of this portion of the heart, others, notably Magnus-Alsleben<sup>34</sup> and Jaeger<sup>35</sup> have destroyed it, by cauterization or otherwise, without disturbance of auricular action. These results seem to indicate that when the normal origin of impulses is unable to perform its function, other portions of the auricle are able to assume its duties. It is believed by certain authors that the auriculo-ventricular node may under certain circumstances assume the function of stimulus production, and attempt has been made to explain some types of abnormal heart action in this way, as will be described later. The rôle of the auriculo-ventricular bundle in the condition of heart-block is now well established; in recent

years, as the distal course and distribution of this structure has become better known, lesions not of the main trunk but of its branches have been studied as possible causes of certain types of heart action.

Physiological studies of the initial phase of ventricular systole, the so-called presphygmic period or *Anspannungszeit*, the period between the inception of contraction and the instant when it becomes efficient by the opening of the semi-lunar valves, have been made by Robinson and Draper,<sup>36</sup> by Muller and Breuer<sup>37</sup> and by Crehore,<sup>38</sup> by mechanical tracings, by electrocardiograms and by a new form of cardiograph respectively. The results of these different authors are somewhat at variance as to the normal duration of the period, but their results as to its abnormal variations in the main agree. Robinson and Draper find that increase seems to be an index of weakness from any cause. Muller and Breuer have found the time increased in myocardial degeneration and in conditions with increased blood pressure, and diminished in certain neuroses with tapping apex impulses, although these findings were not invariable.

Investigations of the mechanism of diastole have been made by Markwalder<sup>39</sup> and by Von Eysselseyn.<sup>40</sup> The former concludes against the existence of any positive muscular activity in that period of the heart cycle, contesting the belief of Stefani and Luciani. His evidence supports the older assumption that diastole is a period of complete relaxation. Von Eysselseyn argues that the dilatation of the heart cavities in diastole is effected at least in part by the pressure of blood in the coronary arteries.

The innervation of the heart has been studied anatomically with especial reference to the auricles by Argaud,<sup>41</sup> and in its actions by Robinson and Draper<sup>42</sup> and by Pletnew,<sup>43</sup> as well as by other authors whose observations of drug influences will be considered later in the section on pharmacology and therapeutics. Robinson and Draper report the results of observations on human subjects by means of the electrocardiogram, by which they conclude that the right and left vagi differ in their actions, the left having in more marked degree the power of depressing the conduction of stimuli, while stimulation of the right caused increased action current from the left ventricle. In auricular fibrillation stimulation of the right vagus caused slowing of the ventricular rate probably by diminishing the auriculo-ventricular conduction. The ventricular systole was weakened after vagus stimulation. Ectopic ventricular systoles were seen apparently as the result of vagus action. Pletnew, in animal experiments, found that stimulation of the peripheral end of the cut vagus caused slower and larger beats; that stronger stimulation caused an alternation of stronger and weaker beats, and a retardation of the contractions of the right ventricle; and that with still stronger stimulation the contractions of the ventricles became weaker and less frequent and occurred unequally in the two ventricles.

\* Thorel<sup>32</sup> has described a band of fibers which he believes to be a conduction path between the sino-auricular and auriculo-ventricular nodes, but his findings have been so strongly opposed by Keith and Mackenzie, by Koch, by Aschoff and by Monckeberg and are so at variance with the results of experiments, such as Cohn and Kessel's, that an error in observation seems probable.



Frank and Alwens<sup>44</sup> have made observations of the circulation by injecting bismuth suspensions into the afferent veins and watching its course as revealed by x-rays. In the right ventricle it was seen to remain in eddies for several systoles before it passed out into the artery, while in the left ventricle it remained for a less distinct period. Von Plesch<sup>45</sup> has published an important and elaborate study of the work of the heart and of the volume and rate of the circulation. While the article as a whole does not lend itself to review, certain findings may be mentioned. The total amount of blood in the body is one nineteenth of the body weight, not one thirteenth as has hitherto been taught. The output of the heart per minute in a healthy man at rest is 4,300 ccm., and at hard work, 47,000 ccm. The time required for the circuit of the vascular system is at rest 55 seconds, and in extreme exertion 4.5 seconds; 4.8% of the total circulation passes through the coronary arteries.

Saski<sup>46</sup> and Hasebroek<sup>47</sup> have argued for the existence of an action of peripheral influences on the flow of blood, the former ascribing such a power to the skeletal muscles in the neighborhood of vessels and the latter to a systolic and diastolic action of the muscular walls of the arteries themselves.

Groedel<sup>48</sup> has studied the influence of respiration on the heart action and blood pressure, which he attributes to the action of the diaphragm exerted through the pericardium.

Longcope and McClintock<sup>49</sup> have investigated the effect of constriction of splanchnic arteries on blood pressure, and find that such constriction is not followed by rise of blood pressure or heart hypertrophy in animal experiments, nor is there any evidence of any certain connection between sclerosis of the abdominal aorta and splanchnic vessels and heart hypertrophy in man. Weigert<sup>50</sup> and Martinel<sup>51</sup> have made extensive observations on blood-pressure readings, particularly in connection with acute infectious diseases. In regard to the cause of final collapse in diseases other than primary heart disease, a new view has recently gained ground, namely, that the process is not one of heart failure, as was formerly assumed, but one of vasomotor paralysis from loss of function of the vasomotor center in the medulla. The development of this theory is well described by Howland,<sup>52</sup> who adds certain original observations, notably that of a child pulseless but still with tumultuously beating heart.

Von Rentkowski<sup>53</sup> has made chemical examinations of heart muscle, and finds that normally the left ventricle contains more albumin than the right; that in dilatation there is less albumin and more NaCl; and that in hypertrophy there is more albumin and less NaCl.

Eppinger and Knaffl<sup>54</sup> publish evidence that loss of myocardial efficiency may be due to inanition of the heart, and that dextrose is the form of nutrient material in the blood upon which the heart chiefly depends for its source of energy by combustion. This theory has been applied therapeutically by a number of authors, as will be noted in its proper place.

A number of articles<sup>55</sup> have appeared bearing on the effects of single severe exertions and of continued daily hard work on the heart. Most of these support the teachings of Von Moritz,<sup>56</sup> that in healthy men or animals severe exertion alone is not able to cause dilatation, but, on the contrary, a diminution in the size of the orthodiagraphic heart shadow results probably from insufficient diastolic filling. As to the effects of exertion daily over long periods, however, there is general agreement that hypertrophy occurs, although it appears probable that such hypertrophies do not reach extreme grades. Grober's<sup>57</sup> animals kept at compulsory work had hearts which weighed 6.20 gm. per kilo body weight, while the control hearts weighed 5.99 gm. per kilo.

Beck and Epstein<sup>58</sup> have written attempting to show that habitual engagement in athletic competitions leads to degenerative processes from the disproportion between oxygen demand and blood supply during the period of exertion. They report numerous clinical cases but their arguments remain inconclusive. Coughlin<sup>59</sup> has summarized the literature bearing on the effects of competitive athletics. His conclusions are somewhat against the wholesomeness of an extremely athletic life.

#### ENDOCARDITIS AND VALVULAR DISEASE.

Our knowledge of endocarditis has been advanced by clinical and by bacteriological attention to the class of cases called by Osler<sup>60</sup> "Chronic Infective Endocarditis" and by Schottmuller<sup>61</sup> "Endocarditis Lenta." Osler first brought the condition into prominence by the publication of ten cases differing from the established type of septic endocarditis in their much more protracted course. For months the only symptom is slight or moderate fever causing suspicion of malaria, typhoid fever or tuberculosis. Cardiac signs are present, as a rule, but may be of doubtful significance since a majority of these cases have valvular lesions the result of antecedent disease, rheumatic or other. Embolism is frequent. Of sufficient frequency to be of diagnostic importance is the occurrence of "ephemeral spots of a painful nodular erythema chiefly on the skin of the hands and feet" not unlike urticaria, lasting from a few hours to a day or more. Anatomically the valvular lesions are noteworthy in the slight extent of ulceration and the great extent of the proliferative vegetations like condylomata on the valves.

A number of authors have investigated cases answering to this description by blood cultures. Billings<sup>62</sup> in 14 cases found that 11 were due to the pneumococcus and 3 to a streptococcus. Horder<sup>63</sup> in 40 cases obtained cultures of streptococci of various types in 26. Liebmman and Celler<sup>64</sup> have obtained from 36 out of 43 cases an organism which they describe carefully and have named the coccus of endocarditis, believing it to be different from any hitherto described unless it may be the same as the streptococcus mitior of Schottmuller. Nankivell<sup>65</sup> has described a diplococcus not previously recognized. Schottmuller<sup>61</sup> reports five cases due to the streptococcus

viridans, and discusses the general clinical aspects of the cases and the subject of their bacteriology. Venning<sup>66</sup> reports anatomical findings and refers to the likelihood of the organism of Poynter and Paine as an etiological factor. Thus it seems probable that the clinical and pathological picture can be produced by any one of a variety of different organisms, and that much further work must be done to establish the relative importance of these. The contention of De Vecchi, that endocarditis may be the result of the action not of bacteria themselves, but rather of their toxins, seems to be rendered improbable by the work of Fulci,<sup>67</sup> who, in repeating De Vecchi's work, was unable to produce experimental endocarditis either by chemicals or by bacteria. Falconer<sup>68</sup> suggests that the presence of optic neuritis or retinal hemorrhage may be of diagnostic value since he found one or the other in 9 out of 15 cases.

The importance of syphilis as a cause of lesions, particularly of the aortic valve, has been more and more firmly established, as of late years our knowledge of the etiology of syphilis has been proved and as our diagnostic power has been increased by the application of serological tests. The importance of syphilis as a common cause of aortitis has been established beyond question by Wright and Richardson<sup>69</sup> from the presence of the *treponema pallidum* in five cases. The Wassermann reaction has been tested by numerous authors<sup>70</sup> in series of cases of aortic insufficiency and has been found positive in so large a proportion as to leave no doubt that syphilis is among the commonest if not the commonest cause of lesions of the aortic valve.<sup>71</sup>

A case of traumatic valvular disease has been reported by Steinitz,<sup>72</sup> of peculiar interest in that at autopsy nine years after the injury which undoubtedly caused a rupture of one aortic cusp a fold of endocardium was found below the faulty cusp similar to those described by Wilke<sup>73</sup> as possible attempts on the part of nature to repair the damage.

Vires and Anglada<sup>74</sup> have written on the subject of the so-called Hodgson syndrome, of insufficiency of the aortic valve from dilatation of the aortic ring as a result of chronic aortitis without lesion of the cusps. In 386 cases of chronic aortitis they found dilatation of the ring in 111, and 184 had normal valves.

Experimental studies of aortic insufficiency have been made by MacCallum<sup>75</sup> and by Zollinger.<sup>76</sup> Their results have been entirely in accord with clinical beliefs as to the pathological physiology of the disorder without striking additions. It is noteworthy that MacCallum guardedly contests the findings of Stewart<sup>77</sup> reported in the earlier article. Zollinger's work also, to some extent, disputes Stewart's beliefs in a reflex peripheral dilatation as the cause of the rapid emptying of the arteries in aortic insufficiency.

As to mitral diseases a novel observation published by Osler<sup>78</sup> from three cases and reported also by Muktedir Effendi<sup>79</sup> is the occurrence of

left recurrent laryngeal nerve paralysis, apparently from compression between a dilated left auricle and the aorta.

Lian<sup>80</sup> has shown by experiments on exposed hearts that a relative insufficiency of the mitral valve with apical systolic murmur is possible without lesion of the valve. Teissier<sup>81</sup> reports experiments in which dogs subjected to bleeding developed a presystolic murmur. These experiments were suggested by the observation of transitory signs of mitral stenosis during excitement in chlorotic patients. Biach and Chilai-diti<sup>82</sup> have studied cases with functional murmurs with the orthodiagraph and conclude that dilatation as a cause of these murmurs must be ruled out, since they found no connection between their occurrence and any changes in the heart shadow. Dietlen<sup>83</sup> and Groeder<sup>84</sup> lay stress on the orthodiagram in the diagnosis of valvular diseases, emphasizing chiefly an almost circular outline of the left border in aortic regurgitation, and the dilatation of the left auricle in mitral disease.

Samojloff and Steshinsky<sup>85</sup> have investigated the form of the auricular wave in the electrocardiogram in mitral disease in various stages. They find that as a rule there is a marked increase in the size in duration of this wave but this is not constant, seeming to disappear with increase of the disease. It is a plausible theory that the increase of the wave occurs with compensatory overactivity of the auricle, and that its later disappearance is due to auricular insufficiency.

Increased attention to venous pulses has caused renewed interest in the tricuspid valve. The results of investigations, however, do not increase the confidence with which the diagnosis of tricuspid disease can be made. In marked cases in regular hearts the systolic venous and liver pulsation is conclusive evidence of tricuspid insufficiency. But as has been shown clinically by Von Tabora,<sup>86</sup> and experimentally by Hering,<sup>87</sup> this evidence may be obscure or absent. A systolic murmur is more often absent than present, and the enlargement to the right may be slight. Absolute arrhythmia is regularly accompanied by a systolic (ventricular) venous pulse which has not usually been taken to be due to tricuspid regurgitation, although Von Tabora suggests that this type of irregularity may in some way set up a relative tricuspid insufficiency. Even severe grades of tricuspid disease may exist for years without severe symptoms. Stern<sup>88</sup> has advocated auscultation while the patient lies on his back with his head and shoulders hanging downward over the end of the table; this procedure, he says, serves to increase the insufficiency or stenosis and render the murmurs more distinct; it is applicable, however, only in less severe cases. Fletcher<sup>89</sup> has discussed the clinical features of tricuspid stenosis, showing that here, still more than in insufficiency, the diagnosis is usually difficult.

#### CONGENITAL HEART DISEASE.

The literature upon congenital malformations and malpositions of the heart is devoted chiefly

to the description of individual cases. Of such observations perhaps the most remarkable is that of a family seen by Burwinkel,<sup>90</sup> in which six cases of congenital heart disease occurred in four generations. Klippel and Chabrol<sup>91</sup> report an instance in connection with myxedema. Keith<sup>92</sup> has studied 272 congenitally abnormal hearts and concludes that in the majority the cause is developmental and not fetal endocarditis. He also reports that of 23 children with cleft palates whose hearts he examined, 14 had malformations of the heart.

The orthodiagraphic outlines of congenitally diseased hearts have been studied by Groedel.<sup>93</sup> Striking changes in the electrocardiogram particularly in congenital dextrocardia have been reported by Kraus,<sup>94</sup> by Nikolai<sup>95</sup> and by Hoke.<sup>96</sup> Researches as to oxygen absorption in the lungs have been made notably by Plesch<sup>97</sup> showing that in defects of the ventricular septum in which a part of the blood which reaches the lungs comes from the left ventricle and has already been charged with oxygen the expired air is richer in oxygen than normally.

#### PERICARDITIS.

On pericarditis good general articles have appeared by Zinn<sup>98</sup> and by West,<sup>99</sup> but without notable new findings. Calvert<sup>100</sup> has described a new sign for the differentiation of pericarditis with effusion from dilatation, in the behavior of the upper margin of liver dullness over the right lobe which is depressed in pericarditis with effusion, but elevated in dilatation. Wenckebach<sup>101</sup> emphasizes the significance of diminished respiratory movement of the sternum as a sign of adherent pericardium.

As to chronic pericarditis and its accompaniments interesting results are reported by Hess,<sup>102</sup> with especial reference to the liver. Hess divides cases with manifestations in the liver in connection with chronic pericarditis into three types: (1) Cases combining chronic inflammation and chronic passive congestion in adults; (2) cases of almost pure passive congestion in children; and (3) cases also in children similar to the second class but showing in addition a connective tissue increase — the so-called *cirrhosis cardiæque*. Experimental production of these conditions was strikingly successful, including the fibrous change in the liver.

Schlayer<sup>103</sup> calls attention to an important distinction between cases of adhesive pericarditis whose symptoms are due to cardiac insufficiency and those whose symptoms are due to inflammatory polyserositis. This distinction cannot be disregarded in considering the advisability of treatment by cardiolysis, for this operation of resection of ribs to give greater mechanical freedom to an adherent heart can obviously be of benefit only where the symptoms are due to embarrassment of the heart by lack of mechanical freedom. Where the heart, although adherent, is not embarrassed by its adhesions, but where the patient is suffering rather from accumulation of

inflammatory thoracic or peritoneal exudates, cardiolysis is not indicated.

Richter<sup>104</sup> reports a case in which pericardial friction was heard but in which at autopsy a few days later the pericardium was found to be totally adherent without fresh lesions except for some hemorrhagic areas in the adhesions.

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(To be continued.)

## Book Reviews.

*Spondylotherapy.* Physiotherapy of the Spine Based on a Study of Clinical Physiology. By ALBERT ABRAMS, A.M., M.D., F.R.M.S. Third edition, enlarged. San Francisco: Philopolis Press. 1912.

The first edition of this work was reviewed in the issue of the JOURNAL for May 12, 1910 (vol. clxii, p. 646). This third edition, under a somewhat modified sub-title, appears with the added assurance that "the pathology of spondylotherapy is founded on clinical physiology, and its methods embrace the therapeutics of the reflexes." The book is enlarged by the addition of seven chapters, on such subjects as "tonus of the vagus and pharmacology of the reflexes" (including psychovagus tone, vagal hyperesthesia, and phylogenetic diseases). There are fifty new illustrations. The preface is largely devoted to "refuting some reviews of the previous edition," and concludes with an advertisement of the author's practical course "for the benefit of physicians who cannot master some of the details of spondylotherapy." In spite of the terminal "synoptic tables of spondylodiagnosis and spondylotherapy," such a course would be necessary for many who wish to master the rationale of curing pertussis by tapping the spine of the seventh cervical vertebra with a tack-hammer through a strip of linoleum and a piece of cotton, while the mother accompanies "the blows with a nursery rhyme or song to interest the child."

There seems no reason to modify the opinion of this book expressed in our previous review.

*The Parasitic Amebæ of Man.* By CHARLES F. CRAIG, M.D. Published with the authority of the Surgeon-General of the United States Army. Philadelphia and London: J. B. Lippincott Company. 1911.

This monograph by an army medical officer, representing the results of the author's study in military hospitals, is the first detailed original presentation in English of our knowledge of the amebæ parasitic in man. After a brief historic sketch of the subject, an account of the general morphology and biology of the amebæ, their classification and nomenclature and the technic of their cultivation and study, the book contains systematic description of the parasitic amebæ

of the intestinal and genito-urinary tract, of the amebæ of the mouth, and of those occurring in exudations, in abscesses and in the lungs. There is an admirable alphabetic bibliography of over 120 references. Hitherto most of the work on this important subject has been in foreign languages. The present volume, which is well illustrated with 30 plates, not only should be useful to students and to those concerned with tropic medicine, but is a creditable contribution to the literature and to the accomplishment of the army medical corps.

*The Surgery of Oral Diseases and Malformations.* Their Diagnosis and Treatment. By GEORGE VAN INGEN BROWN, D.D.S., M.D., C.M. Illustrated with 359 engravings and 21 plates. Philadelphia and New York: Lea & Febiger. 1912.

The author's purpose in this volume, as stated in his preface, is "to include all important pathologic conditions that affect or are influenced by the buccal cavity and its immediately surrounding parts; to deal thoroughly with the etiology and symptoms of these affections; and to describe the necessary operative procedures clearly and concisely, with sufficient detail to give a thorough understanding of the most approved methods of treatment, the risk involved, and the probable results." In this purpose he has succeeded well. The somewhat arbitrary and artificial nature of his category of classification has made selection of material rather difficult, but in the main he has shown excellent judgment in his decisions and considerable skill and effectiveness of presentation. Particular attention should be called to the chapters on hare-lip and cleft palate, which represent the author's widest clinical experience. They are admirably illustrated with photographs of actual cases and with diagrams presenting the various steps of operative technic. Since the publication of Lane's monograph, there has been no such extensive consideration of this subject in English. The volume, though bulky, should be of value both to special students, and to general practitioners for reference.

*Elements of Hydrotherapy for Nurses.* By GEORGE KNAPP ABBOTT, M.D. Washington, D. C.: Review and Herald Publishing Association. 1912.

This book represents a simplification, without experimental details and data, of the author's larger volume on "Hydrotherapy for Students and Practitioners." It is intended to present simply the elementary knowledge of the subject which a nurse should possess. Its first part describes the physiologic effects of the various procedures of hydrotherapy; its second, their therapeutic value and uses; its third, the technic of their application. If one grant the premises of hydrotherapy, this work cannot be held to overstate their importance. In any event, it should be a useful manual of reference for nurses.

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THE TITANIC DISASTER.

THE *Titanic* disaster, which for a week held the absorbed attention of the civilized world, represented the final tragic happening of what for a long time the prudent had foreseen must ultimately occur. There have been similar disasters on a smaller scale, but apparently this stupendous episode was needed to bring home certain truths with sufficient force. In its dramatic setting, its vivid swiftness, its terrible catastrophe, its associated interests, it is unequalled: imagination could hardly have framed them more appropriately. Whether it passes into history with the wreck of the Armada and the sinking of the *Royal George* seems doubtful; but in any event its lessons for civilization are manifold, and lessons that civilization is not likely soon to forget.

The loss of life on the *Titanic* seems large merely because it was preventable. It was greater perhaps than has ever occurred in a single shipwreck, because few ships have ever carried so many passengers. It was not so great, however, as the loss in such naval battles as Salamis and Trafalgar; not nearly so great as the loss in many land battles, and relatively trifling compared to the annual loss from railroad accidents and preventable disease. The death of some fifteen hundred persons by drowning stirs the civilized world; it is impossible to excite popular interest in the death of two hundred thousand from typhoid fever. The circumstances and not the bare facts are what give disaster poignancy.

The facts of the *Titanic* disaster have been somewhat difficult of obtainment, but seem now to be gradually shaping themselves. They contain numerous points of interest for comment. In the first place, the wide and sometimes diametrical

divergence between the accounts of different survivors illustrates how little reliance should ever be placed on the details of evidence of the average bystander. Except in general, such testimony is of little worth unless one knew the temperament and observing powers of the witness. In the present instance it is interesting to examine the several narratives and estimate their probable relative value. Some are obviously to be discarded at once as worthless; others are in the main reliable, but probably inaccurate; two stand out as most convincingly and consistently correct: one that of an American officer and author, the other that of an English college man. The latter particularly is noteworthy for its simplicity, coolness and temperance. The narrator evidently had an orderly mind and an eye for observation, and was not even too excited to note the beauty of the clouds in the sunrise that came up over those still and icy waters after the great vessel had

"heav'd up her batter'd side  
And carried a million pounds of steel  
To the cod and the corpse-fed conger eel."

He had an Englishman's love of the sea and trust in it, though it sought to slay him.

From the various narratives it appears that a good many things happened differently from the probabilities as they had been described in the daily press. In the first place, a good many were saved who remained on the ship and jumped overboard only as she sank. One would certainly expect a vessel of such size to create so much suction that no one could live in the vortex or return to the surface, even with a life preserver, before he was drowned. Apparently, however, this was not the case: the *Titanic* went down quite gently, and one man even was saved who held on to the brass railing of the hurricane deck till it went under water. Whether this gradual descent would always be the case with sinking craft cannot, of course, be told.

Again it appears that the water, though intensely cold, did not kill every one who fell into it. Newspapers had averred that no one could survive more than a few moments in freezing water; yet several persons swam or floated submerged in it for some hours and were uninjured. Others, on the contrary, had their feet frozen. Probably it was largely a question of age, general condition and alcoholic habits. In any event, it would seem to a physician at least surely preferable to die by the protracted anesthesia of cold than by the quick agony of asphyxia.

Though some of those rescued are reported to



have died of exposure, it is noteworthy that the majority of the survivors were in good condition. Pneumonia and pleurisy did not occur, another instance that these are diseases of the city, not of the open. It will be interesting professionally and sociologically to learn whether any or all of the pregnant women who escaped miscarry or suffer fetal death or deformity. It appears that the women behaved in this catastrophe with a distinguished fortitude corresponding to that of the men; indeed, there was far less hysteria among them than among the "unhappy folks on shore," particularly the newspaper reporters.

It is interesting that no account seems to make any mention of the ship's surgeon aboard the *Titanic*. Presumably he perished, as it is the business of his craft to do without special recognition. In the awakening of more important interests, after such disasters as after individual illness, it is rather the rule that "God is forgotten and the doctor slighted."

The lessons and the moral of the *Titanic* disaster are likely to occupy the world for some time, to result in measures which shall make ocean travel safer and slower, and in the more efficient regulation of wireless telegraphy that it may furnish its maximum of service for the benefit of mankind. These results, if permanent, will be no more dearly bought than most comparable advances in the security of life and the prevention of misfortune. But these results alone can never justify their cost. It is the superb demonstration of human courage and nobility, of self-sacrifice under circumstances now happily uncommon, which alone, as an example to the race of its persistent, fundamental qualities, can to-day constitute the tragic justification of the *Titanic* disaster.

#### NEW YORK NEUROLOGICAL INSTITUTE.

The second annual report of the Neurological Institute of New York has just been issued. The executive committee, in its report, notes a marked increase both in the number of dispensary patients and of those treated in the wards and rooms of the hospital, and expresses gratification at the results obtained, as shown by the statistical tables, especially in view of the fact that the building occupied by the institute is inadequate for the carrying forward of an active service and the conduct of large dispensary clinics. The work of the institute, during the first year, it says, should be regarded as an experiment. The unusual success attending its activities in the second year has demonstrated the need of a

permanent hospital of this character. The medical profession, both at home and abroad, has shown great interest in the advancement of this pioneer institution, which will doubtless result in the establishment of many similar ones in other cities.

The executive physician, Dr. Joseph Collins, presents in his report a tabulated account of the work done by the institute during the year, and states that a glance at the tables will suffice to show that this year has been one of great activity in the hospital. There were received for study and treatment, or both, 1,187 patients, as against 825 during the previous year, an increase of about 44%. Eighty-five beds is the maximum capacity of the hospital, but at times it has been possible, by utilizing the roof as a dormitory, to accommodate more than 90 patients at one time. No attempt was made to care for the certifiable insane. Many of the patients, however, have had mental symptoms, and it can be asserted that a very considerable number of these have been spared serious mental illness, and the state the necessity of maintaining them, by the early recognition of their disorder and the treatment employed. Such early diagnosis of serious mental disease and appropriate treatment constitute one of the most important functions of this hospital. No experience is more impressive in such an institution than the result of treatment. The taunt that the neurologist can do nothing for his patient save make a diagnosis no longer pierces, so far removed is it from the truth, which is that more can be accomplished in the domain of nervous diseases, given the facilities, than in the majority of the other fields of medicine.

In the out-patient department there have been 3,557 new patients, over 500 more than in the previous year. A considerable percentage of these patients come with letters from their own physicians requesting aid in diagnosis, and counsel in carrying out treatment, and these are always referred back to the physicians who sent them, unless it is specifically requested that they be treated at the institute. It is the unanimous opinion of the physicians working at the latter, who have had experience in the large clinics in Europe, that there are few places where such a wealth of clinical material is to be met with. Once a week the medical staff gather in conference for the purpose of demonstrating and discussing the rarer and more interesting cases which have come to the hospital during the week, and this is not only a help to the physicians of the institute,



but is of great value to the patient, giving him, as it does, the benefit of the advice of several physicians, some one of whom is likely to have encountered similar disease, no matter how rare the case may be. The greatest increase in the amount of work performed by the institute was in the department of applied therapeutics, where this increase has amounted to upward of 100%, taxing its fullest capacity. In order to accomplish what has been done in this department, viz., in the application of water, electricity, light, heat and mechanical and manual appliances, it has been necessary to have a large corps of trained assistants working under the direction of a physician whose entire time is given to it. In this category are not included the activities of the occupation, recreation and disciplinary departments, which are conducted upon the roof of the building. In October a printing press was obtained, and since then the treatment cards, prescription blanks, etc., employed have been set up and printed by patients. Much work has been done in the pathological department, and several articles based upon that work have been published or are in course of publication.

In the course of his report Dr. Collins bears testimony to the value of salvarsan, saying: "There was ample opportunity in the hospitals of Europe and America to demonstrate its efficiency to combat this disease [syphilis] when applied during its early stages; but to prove or disprove its efficiency in diseases that have their origin in this infection many years before, a hospital such as ours was needed. In the past year upward of two hundred such cases have been treated, and the results obtained will, we believe, go far toward establishing the great value of this remedy in certain diseases of the nervous system." After referring to the inadequacy of the present building, he urges that if the work of the institute is to be carried on as it should be, a place must be provided in which an adequate number of physicians can work. "What we need," he says, "is a modern hospital adapted in its construction to the peculiar wants of patients with nervous disease, and a sanitarium in the country where the after-treatment of such patients can be carried out properly and effectively. Nervous and mental diseases need to be studied and interpreted before they can be prevented or cured. As I said in my previous report, the vital element in our work is the educational. Those who are sick profit from the institute's existence now, but the great profit that shall come to all mankind will come through the ministration and example of

those who are taught here in special fields. Within a few years we should have throughout this city and country, physicians and special workers in the field of the treatment of nervous disease who have been convinced from what they have seen here that the therapeutics of nervous disease is not a barren field, but one in which the skilled workman may reap a rich harvest."

#### THE ANTI-VIVISECTION EXHIBIT.

DURING the past week there has again been shown in Boston the so-called "anti-vivisection exhibit," to which we made editorial reference at the time of its appearance a year ago. The exhibit this year consists largely of the same material as before, the same misconceived and misrepresented quotations from newspaper and medical articles, the same absurd models of animals undergoing the "unutterable torment" of supposed experiments, the same imaginary pictures appealing to the noblest sentiments and playing upon them fallaciously in the interests of the cause. To this old material have been added some new examples of the same category. One tract ingeniously interprets a medical paper on the Calmette reaction as a hideous example of human experimentation, that climax of deviltry to which the mind of the vivisector (for he has no heart or soul) is supposed bloodthirstily to yearn. Another tract depicts "a famous manufacturer of vaccine collecting" — of course without aseptic precautions — "the filthy excretions from running sores on a sick calf with which to defile the blood of defenseless children." The motive for this defilement is presumably the physician's characteristic and ghoulish love of torturing the innocent and increasing the sum of human suffering.

The anti-vaccinationists this year have made common cause with the anti-vivisectionists. A large wall chart in the exhibit presents in eloquent parallel columns figures indicating the decrease in the number of deaths from smallpox and the increase in those from cancer, implying that the increase of cancer is due to "the filthy and abominable practice of vaccination." Apart from the fact that those who do not die of smallpox live to grow up and die of cancer, there can be no correlation between these two. As a matter of fact, the exhibitors seem entirely to have overlooked the fact that their use of startling figures of the decline of smallpox is tacit admission of the efficacy of vaccination in its prevention.

The anti-vivisection exhibit should be generally visited by physicians, since it affords convincing

evidence of the depth and genuineness of the delusion under which its supporters are laboring. In a recent address to medical students at the University of Vermont, Prof. Frederic S. Lee, of Columbia University, is reported to have said:

"Nothing is more certain than that scientific experimentation on animals constitutes the very basis of physiological, pathological, medical and surgical advance. To question its value in scientific progress is as futile as to question the value of the railway or the telegraph in commerce. To abolish it or to fetter it by legislation would change our hopefulness of future victory over hitherto unconquered diseases into despair and deprive future generations of the blessings which we believe we or our successors can give them."

In the face of truth no error can of course permanently persist. The delusion of the antivivisectionists is daily weakening with the progress of general human enlightenment. That progress, however, and the prevalence of truth, may and should be furthered by the greatest tolerance and patience in recognizing the honesty of the antivivisectionists' motives and in presenting fearlessly and impartially the facts of animal experimentation. The medical profession has no consequence but good to anticipate from its efforts in behalf of humanity.

#### THE ERADICATION OF TYPHOID.

At the meeting, on April 3, of the Boston Medical Library and the Medical Section of the Suffolk District Medical Society, Passed Assistant Surgeon Allan J. McLaughlin, of the United States Public Health and Marine-Hospital Service, was the principal speaker, and some account of his address was given editorially in the JOURNAL of April 4. Dr. McLaughlin is thoroughly conversant with this subject, having been actively engaged in the eradication of typhoid not only at Manila, but in many American cities. One of the points of vital importance which he emphasized was that in this country regulations do not command respect until their purpose is grasped by the community and that, therefore, reforms must be brought about by education aimed to arouse the interest and to enlist the support of as many people as possible, because until this has been accomplished the regulations cannot be effectively carried out. Typhoid could be made a disease of history if all human excreta could be ideally disposed of, or if, failing this, all persons would clean their hands and nails thoroughly before handling food.

Dr. McLaughlin does not expect that these

ideals can be fully realized, but he believes that by preaching this gospel of hygiene through every available channel, by enlisting the co-operation of teachers, settlement workers and visiting nurses, the public can be brought to realize that the transmission of fatal diseases is a form of homicide, and that much of it can be avoided. While in complete sympathy with the efforts towards securing clean milk, he regards the goal so far distant, owing to the inherent difficulty of the task, that he urges most strongly the pasteurization of the entire milk supply of cities.

Although Boston has the lowest typhoid mortality of any of our larger cities, it remains more than six times larger than that of Edinburgh or of several of the large continental cities. The principal reasons for this are that these cities drink little milk and boil it all, that their municipal physicians discover and follow up the mild cases, many of which here are never seen by a doctor, and finally that, thanks to habits of obedience to authority, public health regulations are observed without question. Boston has been a pioneer in public health by reason of the able men who have shaped her policy and that of the state of Massachusetts. She wishes to remain in the lead and she is in a position to do this by continuing to keep her health service free from the influence of politics. If physicians stand together for the good of all, if every man remembers that he has a public as well as a private duty to perform, if the profession uses its influence to the utmost both individually and collectively, the mortality from typhoid will fall to the apparently irreducible minimum already reached abroad.

#### RELATION OF BIRTH AND DEATH RATES.

THERE have recently been published from the Register-General of Great Britain statistics pertaining to the relation in different countries between the birth-rate, the general death-rate and the rate of infant mortality. Comparison of these seems to indicate what would be theoretically expected, that a declining death-rate is associated with a decline not only in infant mortality, but in the birth-rate as well. In Great Britain, Denmark, Norway, Germany, Austria, Hungary, Holland, France, Switzerland, Italy and the United States, all three of these figures have declined steadily during the past thirty years. In Bulgaria and Ceylon all three have increased; in Jamaica and Russia, the birth-rates have increased though the death-rates have declined; and in Japan the birth-rate

has decreased and the death-rate increased. These, however, are merely the exceptions that prove the rule. Death-rates have indubitably declined on account of the cessation of wars and the progress of medical and sanitary science. Whether we are to regard declining birth-rates also as a cause, or only as an effect, or as a phenomenon of evolution by natural selection, only the eugenists can decide.

### MEDICAL NOTES.

**CLOSE OF INTERNATIONAL TUBERCULOSIS CONGRESS.** — The Seventh International Congress on Tuberculosis concluded its sessions in Rome on April 20. It was voted to hold the next Congress at London in 1917.

**HARRIS LECTURES AT NORTHWESTERN UNIVERSITY.** — During the past week, from April 15 to 20, Dr. Milton J. Rosenau, professor of preventive medicine and hygiene at the Harvard Medical School, delivered the Norman W. Harris lectures of Northwestern University on "Milk and its Relation to Public Health."

**WOMEN PHYSICIANS IN SIBERIA.** — It is stated in a recent issue of the London *Standard* that a number of prominent Siberians have petitioned the Ministry of Education at St. Petersburg to admit women students to the medical school at the University of Tobolsk. There is said to be a considerable field for women practitioners among the Mohammedans resident in Siberia, who do not permit male physicians to enter their households.

**HOT-AIR TREATMENT OF DIPHTHERIA.** — A press report from Paris, as yet unauthenticated, states that on April 19, Dr. Robert, of Lyons, communicated to the Medical Association of that city a new method of treating diphtheria with inhalations of hot air, said to have a definite bactericidal effect. If this treatment prove to be of any value, it may partly account for the relative immunity of tobacco smokers to diphtheria and to other infections gaining entrance through the mucous membrane of the mouth, pharynx and respiratory tract.

**LORD LISTER'S WILL.** — The will of the late Lord Lister disposes of property valued at £66,166, which, with the exception of a few small family legacies, is given almost entirely to medical and scientific institutions. It is divided into bequests of £20,000 to the Lister Institute of Preventive Medicine, and of £10,000 each to the Royal

Society, to King Edward's Hospital Fund, to King's College Hospital and to the North London and University College Hospital. Lord Lister's books, scientific manuscripts and sketches are bequeathed to the Royal College of Surgeons, England. The will expressly stipulates that none of these gifts shall in any way hereafter be associated with the donor's name. In this disposition of his estate, Dr. Lister, true to the best ideals of his profession, is as generous as he was in the gift of his own service to humanity, and as modest as he was in his regard for fame during his life.

**ABOLITION OF THE ROLLER TOWEL.** — At a regular meeting of the State Board of Health of Massachusetts, held last week in Boston, the following regulations were adopted for the abolition of the common public roller towel.

"On and after June 1, 1912, it shall be unlawful to provide a common towel

"(a) In any building used as a public institution, hotel, restaurant, theater, public hall or public school; or

"(b) In any railroad station, railroad car, steam or ferryboat.

"The term 'common towel,' as used in these regulations, shall be considered to mean a roller towel or a towel available for use by more than one person without being washed after such use."

The establishment of this ordinance marks the end of another public abomination, second in danger only to that of the common public drinking cup.

**PHYSIOLOGIC STUDIES IN ANAPHYLACTIC PHENOMENA.** — In a recently published bulletin (No. 80) of the United States Public Health and Marine-Hospital Service, W. H. Schultz, associate pharmacologist of the hygienic laboratory, presents a series of elaborate "Physiological Studies in Anaphylaxis" consisting of observations on the "reaction of smooth muscle from various organs of different animals to proteins, including the reaction of muscle from non-sensitized, sensitized, tolerant and immunized guinea pigs." This research was undertaken to supply the "lack of physiologic data as to the influence of injected protein upon intracellular activity." The reactions of smooth muscle from intestine, bladder, uterus and blood vessels to horse serum, egg albumin, edestin, Witte-peptone and other proteins are exhaustively tested and carefully compared and the results presented in graphic records. Further similar tests are then made of the reactions of the same tissues after sensitization, desensitization and

immunization, and the results again compared. The conclusions of this research are not so important as its accumulation of physiologic data, which should be extremely valuable as a basis of reference in future studies relative to the nature of anaphylaxis and its phenomena.

**REPORT OF THE HOOKWORM COMMISSION.**—The recently published second annual report of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease records the work of that organization during the year 1911. The first chapter contains an outline statement of activities and results by Dr. Wickliffe Rose, the administrative secretary. The second presents a tabular summary of activities and results by states, those reported being Alabama, Arkansas, Georgia, Louisiana, Mississippi, the Carolinas, Tennessee and Virginia, which represent essentially the area infected. Chapter three presents in nine tables a general combined summary of the work done. In the states above mentioned, during the year 1911, 37,267 children were examined and 74,005 persons were given a total of 107,040 treatments by dispensaries. Adding to these the work done by 4,126 private physicians, it appears that 285,299 examinations were made and 140,378 persons treated during the year. Chapter four presents a series of maps, charts, tables and plates illustrating various epidemiologic and clinical aspects of uncinariasis and the methods adopted for its eradication. The fifth chapter consists of the report of the scientific secretary, Dr. Charles W. Stiles. The entire document is one of great interest and value, and demonstrates the efficient beginning of a great sanitary enterprise.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.**—For the week ending at noon, April 23, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 23, scarlatina 29, typhoid fever 1, measles 150, smallpox 0, tuberculosis 72.

The death-rate of the reported deaths for the week ending April 23, 1912, was 17.96.

**BOSTON MORTALITY STATISTICS.**—The total number of deaths reported to the Board of Health for the week ending Saturday noon, April 20, 1912, was 259, against 257 the corresponding week of last year, showing an increase of 2 deaths, and making the death-rate for the week, 18.76, against 19.45 last year. Of this number 124 were males and 135 were females; 249 were white and 10 colored; 165 were born in the

United States, 90 in foreign countries and 4 unknown; 60 were of American parentage, 173 of foreign parentage and 26 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 21 cases and 0 deaths; scarlatina, 23 cases and 1 death; typhoid fever, 4 cases and 0 deaths; measles, 165 cases and 4 deaths; tuberculosis, 70 cases and 26 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 38, whooping cough 1, heart disease 42, bronchitis 2. There were 14 deaths from violent causes. The number of children who died under one year was 46; the number under five years, 66. The number of persons who died over sixty years of age was 72. The deaths in hospitals and public institutions were 99.

**SMALLPOX IN SAUGUS.**—Report from Saugus, Mass., states that on April 22 a case of smallpox was discovered in that town in the person of an employee at a local mill. One hundred other mill operatives were vaccinated, and the patient quarantined at his lodgings.

**MEASLES EPIDEMIC IN BOSTON.**—During the week ended on April 20, there was a still further slight increase of the epidemic of measles in Boston, 165 cases of the disease, with 4 deaths, being reported, as against 160 cases and 4 deaths during the preceding week.

**SEIZURE OF CATSUP IN BOSTON.**—On April 20, United States officials made a seizure at a wholesale grocery store in Boston of five hundred gallons of catsup, shipped from a Chicago firm, and alleged to contain "filthy decomposed vegetable substances."

**A PROLIFIC PROGENITOR.**—William Fish, of Malden, Mass., who died on April 19, at Cliftondale, Mass., is said to be survived by 5 children, 55 grandchildren and 50 great-grandchildren. He was born in Hants County, Nova Scotia, in 1825, and came to Boston in 1855. The number five appears to dominate his history as it does the anatomic structure of the liver.

**END OF SCARLET-FEVER EPIDEMIC AT MIDDLEBORO.**—The epidemic of scarlet fever at Middleboro, Mass., which was noted in last week's issue of the JOURNAL, appears to be nearly at an end, only two new cases of the disease having been reported on April 17. On April 19 the quarantine was removed from local churches and places of amusement, and on April 22, from the public schools.

**DINNER TO EMERITUS PROFESSORS.** — On Wednesday evening of this week, April 24, there was held in the Administration Building of the Harvard Medical School a dinner, given by the Faculty of Medicine in honor of its emeritus professors. About one hundred persons were present and there were addresses by President Lowell and by the emeriti.

**NORTH SHORE BABIES' HOSPITAL.** — The recently published seventh annual report of the North Shore Babies' Hospital, at Salem, Mass., records the work of that institution for the year 1911. During this period 47 patients were admitted to the hospital, of whom 14 died, 5 of ileocolitis. The mortgage has been reduced to about \$2,500, and it is hoped that this remaining amount may be cancelled during the coming season. Several important improvements have been made, among them the construction of a modern steam laundry. The greatest present needs of the institution are an orthopedic ward and suitable sleeping quarters for the nurses.

**THE INSANE HOSPITALS OF MAINE.** — The recently published reports of the Maine Insane Hospital at Augusta, Me., and of the Eastern Maine Insane Hospital at Bangor, Me., record the work of these institutions for the year ending Nov. 30, 1911. During this period 1,209 cases were treated at the former and 692 at the latter. Six nurses were graduated from the training school at Augusta and 7 from that at Bangor. Important additions and improvements were made in the equipment of both hospitals, and various economies of administration instituted. Valuable details are given of the medical and sociologic aspects of the work, and plans outlined for future progress.

**WORK AND NEEDS OF THE BOSTON LYING-IN HOSPITAL.** — The recently published seventyninth annual report of the Boston Lying-In Hospital records the work of that institution for the year 1911. During this period 853 mothers and 843 infants were cared for in the hospital, and 2,115 mothers and 2,131 infants in its out-patient department. Twenty-eight nurses were graduated from the training school. Particular attention should be called to the work of the new Pregnancy Clinic, whose establishment as an adjunct department of the hospital was noted editorially in the issue of the JOURNAL for May 11, 1911. To this department, during the remainder of the year after its opening on May 5, 1,732 visits were made by house and out-patients of the

hospital and their babies, both before and after delivery. By this extended observation was thus made possible not only the hygienic supervision and preparation of pregnant women, but also, in a number of instances, the early detection of the graver impending complications of labor and their aversion or successful treatment. The value of this work and the importance of its continuance are obvious to the laity and to the profession alike. For this and for the maintenance and extension of other activities of the hospital there is continued need for increased money subscriptions.

#### NEW YORK.

**MORTALITY STATISTICS FOR MARCH.** — The weekly reports of the Health Department show that the mortality in the city during the month of March represented an annual death-rate of 16.03, as against 15.94 in February and 17.76 in March, 1911. This is the lowest death-rate as yet recorded for March, which is usually characterized by a heavy mortality. Among the diseases in which there was a diminished fatality were the following: The weekly average of deaths from typhoid fever declined from 7.5 in February to 5.25 in March; the weekly average from diphtheria and croup, from 29.75 to 28.5; from influenza, from 14 to 11.25; from pulmonary tuberculosis, from 203.5 to 201.25; from pneumonia, from 162.5 to 151.75; from tuberculous meningitis, from 18.5 to 17.75; from cancer, from 78.25 to 77; and from apoplexy and softening of the brain, from 30.75 to 28.75. Among the diseases which showed an augmented mortality were the following: The weekly average of deaths from measles increased from 16.5 to 20; from scarlet fever, from 16.5 to 22.75; from whooping cough, from 2.75 to 6.25; from cerebrospinal meningitis, from 3.25 to 5.5; from acute bronchitis, from 18.5 to 20; from Bright's disease and acute nephritis, from 114.75 to 115.75; from diarrheal diseases under five years of age, from 30 to 39; from organic heart diseases, from 200 to 203; from bronchopneumonia, from 110.75 to 122.5; and from puerperal diseases, including septicemia, from 12.75 to 15.75.

**WORK OF MILK STATIONS.** — The Health Department announces that all but four, out of the total of fifty-four, infants' milk stations provided for by the 1912 appropriations are now in operation, and calls especial attention to the fact that nursing mothers are urged to attend the stations for the purpose of obtaining milk for their own use. All mothers are invited to come to the

stations, for it is felt that if they will do so at this time, and learn how to keep their babies well, instead of waiting until the hot weather develops, when these are already in danger of becoming ill, there will, no doubt, be a still further reduction in the number of deaths and a corresponding increase in the vitality and health of the infants who live. The department also announces that, on account of the importance of the subject, it will publish in an early issue of its *Monthly Bulletin* a summary of Dr. Brill's investigations and an abstract of the recent discussion of the report by Drs. Anderson and Goldberger, of the United States Hygienic Laboratory, identifying Brill's disease with Mexican typhus fever, together with a résumé of the history of typhus fever in New York City. In making this announcement it awards due credit to Dr. Brill, although he did not have the good fortune to establish the identity of the affection which up to the present by general consent has borne his name, for his exhaustive studies and description of typhus fever as it occurs in non-epidemic form in this country and notably in New York.

**HISTORY OF HEALTH LEGISLATION IN NEW YORK.** — The last issue of the *Bulletin*, in tracing the evolution of the Health Department, remarks that, strangely enough, many of the most significant laws pertaining to the city's health were passed either in the face of an epidemic of cholera, yellow fever or typhus fever, or immediately following such an epidemic. The fear of cholera has been perhaps the most successful lobbyist in favor of the health laws, without whose aid the department would scarcely have succeeded in obtaining the needed powers and the required funds for efficient health measures. Until 1827 the Board of Health was a state body appointed by the governor and consisting of a number of health commissioners under whom the health officer served, but in that year a city Board of Health was provided for, appointed by the Common Council and with the mayor as president *ex officio*. The beginning of New York's history as a metropolis, instead of an "overgrown village," may be said to date from the end of the Civil War, and the organization of the Metropolitan Board of Health in 1866 represented the first evidence of an acutely conscious need for sanitary progress. At that time the death-rate of London was about 23 per 1,000 (1862) and that of New York, with an estimated population of 825,000 (1865), was 30.30 per 1,000; while the death-rate for 1911 of Greater New York, with a population

of nearly 5,000,000, was 15.20 per 1,000. Whenever we hear of the "good old times," and how much better things were done in days gone by, we should call to mind the existing conditions just after the Civil War. One need only to read the report of the Citizens' Association in 1864 and the first report of the Metropolitan Board of Health in 1866 to realize what "the good old times" meant. The article then gives a graphic description of these unsanitary conditions. For instance, the streets, paved with cobblestones or even unpaved, were irregularly cleaned by contractors who shirked their work. There was no regular system of removing ashes and garbage, which were thrown loosely upon the street. Cellars in many parts of the city were in a filthy condition, often full of water and undrained, and there were very few houses connected with sewers. Immense quantities of manure had been allowed to accumulate, while the privies were neglected and never properly cared for by scavengers working for grafting contractors. Offensive trades, such as bone, offal and fat boiling, were carried on without hindrance; there were numerous cisterns and cesspools overflowing with filth; many cows were kept in dark, ill-ventilated stables and fed upon swill from adjacent distilleries; and the practice of keeping swine in the built-up portion of the city was common. The condition of the tenements was such as to excite the indignation of every public-spirited citizen. The chief trouble was due to the system of subletting property to "middle men," who were frequently of the most heartless and unscrupulous character. They left no space unoccupied; they rented sheds, basements and even cellars to families and lodgers. They divided rooms by partitions and then placed a whole family in a single room. It was estimated that there were 20,000 people living in cellars in New York in 1866.

**NEW YORK STATE MEDICAL SOCIETY.** — At the annual meeting of the Medical Society of the State of New York, just held in Albany, the following officers were elected: President, Dr. John F. W. Whitbeck, of Rochester; first vice-president, Dr. W. Stanton Gleason, of Newburgh; second vice-president, Dr. William F. Campbell, of Brooklyn; third vice-president, Dr. R. Paul Higgins, of Cortland; secretary, Dr. Wisner R. Townsend, of New York; treasurer, Dr. Alexander Lambert, of New York; chairman of Committee on Scientific Work, Dr. Thomas J. Harris, of New York; chairman of Committee on Public Health, Dr. Joshua M. Van Cott, of Brooklyn; chairman of



Committee on Legislation, Dr. Robert P. Bush, of Horseheads; chairman of Committee of Arrangements, Dr. Edward W. Mulligan, of Rochester. The next annual meeting is to be held in Rochester during the last week in April, 1913.

RECENT HOSPITAL BEQUESTS.—Among the charitable bequests in the will of the late John W. Mack, of New York, are \$10,000 to the Mount Sinai Hospital and \$2,500 to the Montefiore Home and Hospital for Chronic Invalids.

## Current Literature.

### MEDICAL RECORD.

APRIL 13, 1912.

1. STEIN, J. B. *Some Salient Points in the History of the Causal Agent of Syphilis.*
2. ABBE, R. *Papilloma of the Vocal Cords Cured by Radium.*
3. SHEFFIELD, H. B. *Pediatric Memoranda, Congenital Myxedema—Cystic Goiter with Feeble Mentality.*
4. GROSS, M. *Examination of the Duodenal Contents for Diagnostic Purposes to Clear Up Certain Affections of the Upper Abdominal Region.*
5. FELBERBAUM, D., AND EHRENREICH, S. *Cheyne-Stokes Respiration with Report of Two Remarkable Cases.*
6. WATSON, L. F. *Extension and Recurrence of Breast Cancer Through the Deep Fascia.*
7. STROND, L. M. *Malignant Tumors.*
8. FOWLER, E. P. *Effect upon the Ears of Rapid Transit Through the Hudson and East River Tunnels.*

### NEW YORK MEDICAL JOURNAL.

APRIL 13, 1912.

1. CLARK, L. P., AND TAYLOR, A. S. *An Analysis of the Results of Dorsal Root Section in the Treatment of the Spastic State of Cerebral Diplegia.*
2. TAYLOR, J. M. *Physician and Masseuse.*
3. ROBE, A. *Treatment of Phymatiasis by Means of the Continuous Bath.*
4. EPSTEIN, S. *The Physician as a Business Man.*
5. BARRIE, G. *The Diagnosis of Tumors of the Female Breast.*
6. PACKARD, M. *Symptoms and Diagnosis of the Body and Tail of the Pancreas. Suggestive Sign, with Report of a Case.*
7. IVY, R. H. *Leucoplakia Buccalis, with Report of Three Cases.*
8. LUHAN, J. F. C. *Homo.*
9. DESVERNINE, C. M. *A Contribution to the Study of the Physiology and Pathology of the Skeleton of the Oral Extremity of the Thorax (Stethographic Method).*

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

APRIL 13, 1912.

1. \*HEKTOEN, L. *Allergy or Anaphylaxis in Experiment and in Disease.*
2. HARE, H. A. *The Treatment of Sacculated Aneurysm by Wiring and Electrolysis.*
3. \*BABLER, E. A. *The Surgical Treatment of Ascites Secondary to Vascular Cirrhosis of the Liver. Description of a Simple Technic.*
4. \*MURPHY, J. B. *Contribution to the Surgery of the Bones, Joints and Tendons. (To be continued.)*
5. FENNING, F. A. *Voluntary Submission to Treatment and Custody in Hospitals for the Insane.*
6. MOHLER, T. R., AND EICHORN, A. *Contribution to the Diagnosis of Malaria Fever.*
7. HAMBURGER, L. P. *An Epidemic of Septic Sore Throat in Baltimore and Its Relation to a Milk Supply.*

8. MILLER, J. L., AND CAPPS, J. A. *Epidemic of Sore Throat Due to Milk. A Preliminary Note.*
9. EVANS, E. S. *Cervical Rib.*
10. FRAZER, C. H. *Duplex Uterus.*
11. SHARPLISS, F. C. *Note on Treatment of Typhoid Periostitis by Vaccine.*
12. SMITH, H. G. *An Unusual Lithopedion.*

1. Hektoen's article on anaphylaxis or allergy (ergasia, "reaction," and allos, "altered") is too long and too much in detail for review but is a carefully prepared and thorough article. It is recommended for those who are unfamiliar with the nature and details of these phenomena.

3. Babler is a strong advocate of wiring and electrolysis in the treatment of aneurysm. The fact that no accident occurred in twenty-two operations performed by him led him to believe that it is not a dangerous one. It is the only operation in thoracic cases that offers hope of prolonging life. It is justified by the prompt relief of pain, which is generally also permanent. The operation is of course contra-indicated in fusiform aneurysm.

4. Murphy's second article on bone surgery is excellently illustrated by plates and case records. This article shows the great efficiency of transplanted bone splints in ununited fractures. [E. H. R.]

### THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

MARCH, 1912.

1. \*PRATT, J. H. *The Functional Diagnosis of Pancreatic Disease.*
2. \*TUCKER, B. R. *Pellagra in Its Relation to Neurology and Psychiatry.*
3. \*JACOBSON, N., AND POST, C. B. *Gastric or Intestinal Hemorrhage as an Early Manifestation of General Toxemia.*
4. \*KERLEY, C. G. *The Dietetic and General Management of Typhoid Fever in Children.*
5. \*WILLIAMS, A. W. *Vaccination against Typhoid in the United States Army.*
6. \*HARTWELL, A. W., AND HOGUET, J. P. *An Experimental Study of High Intestinal Obstruction.*
7. SPILLER, W. G. *Loss of Emotional Movement of the Face with Preservation or Slight Impairment of Voluntary Movement in Partial Paralysis of the Facial Nerve.*
8. MEARA, F. S., AND GOODRIDGE, M. *The Relation of Erythema Nodosum and Tuberculosis, with Report of a Case.*
9. OERTEL, H. *On Certain Changes in the Elastic Tissue of the Pelvis of the Kidney, and Their Relation to Hydronephrosis.*
10. \*COFFEN, T. H., AND HEYD, C. G. *Thrombo-Angiitis Obliterans: A Clinical and Pathological Study.*
11. \*FARR, C. B., AND WELKER, W. H. *The Effect of Caffeine on Nitrogenous Excretion and Partition.*
12. \*LERCHE, W. *Remarks on Cardiospasm, with Special Reference to Treatment and the Use of the Esophagoscope for Examination, Based on the Study of Seventeen Cases.*

1. Pratt's article is an able description of the abnormal findings occurring in pancreatic disease. He first shows from his own experiments that the statements of Muller and others that exclusion of pancreatic juice from the intestine does not necessarily result in fatty stools are in error, probably from failure in their experiments to close the pancreatic ducts completely. On the Schmidt test diet in cases of pancreatitis the stools are voluminous, of light color, and may contain macroscopic masses of fat, like butter, and bits of undigested muscle. Microscopic examination confirms the presence of an excess of fat and of muscle fiber. Metabolism experiments show a great diminution of absorption of fat and of nitrogenous foods. The feeding of raw pancreas or of pancreatic preparations causes a marked improvement in these respects. The various tests proposed for recognition of pancreatic secretions in the stools and in the intestinal tract, as evidenced by action on substances administered, as well as tests of the internal secretions, are discussed in detail. The Camidge test is dismissed as completely discredited. In closing attention is called to the fallacy of concluding that a

feeling of induration of the pancreas found at operation is of any value in the diagnosis of pancreatic disease.

2. Tucker's article on pellagra is written with the object of calling attention to the disease, still probably often passing unrecognized. The gastro-intestinal symptoms may occur in any part of the alimentary canal. The cutaneous lesions appear chiefly on the backs of the hands. The commonest nervous symptoms are restlessness, insomnia, muscular weakness and vertigo, also changes in reflexes, anesthetics and trophic disturbances. The chief mental manifestations are apprehension, depression, irritability, and loss of memory, with sometimes delusions and suicidal tendencies.

3. Jacobson and Post describe gastric or intestinal hemorrhage as an early manifestation in general toxemias, especially in those resulting from infection by certain organisms such as the pneumococcus. A number of cases are reported.

4. Kerley lays stress on the undesirability of the milk diet in typhoid fever in children and gives in detail a sample diet list providing for two-hourly feedings from 6 A.M. to 10 P.M. composed chiefly of cereal gruels and other carbohydrates with sugar and moderate amounts of white of egg, skimmed milk or dried milk foods and generous amounts of fluid. Fats and proteids are to be given in small amounts only.

5. Williams reports the striking statistics of the Maneuver Division on the Mexican border in the spring and summer of 1911. Of the 12,801 immunized troops, only one had typhoid fever, and this patient had not completed his immunization. One case occurred in a civilian teamster not immunized, and in the cities of San Antonio and Galveston in which the principal camps were located there were 242 cases of typhoid in the period. The process of immunization practiced is described.

6. Hartwell and Hogue report a large series of experiments bearing on the cause of death from high intestinal obstruction. They conclude that the fatal result is not due to nervous causes or to bacterial invasion, but to the absorption of toxic substances which produce lesions in the kidneys, liver and other tissues. Essential to this absorption is injury to the lining cells of the intestine, caused by the irritating action of the stagnated contents, together possibly with mechanical damage due to stretching.

10. Coffen and Heyd describe a case of juvenile gangrene and take the position which they support by histological evidence that the condition is primarily an arteritis and that the thrombus formation is secondary to this.

11. Farr and Welker report studies controverting the belief which has been held by some authors that caffeine has the effect of economizing body nitrogen.

12. Lerche discusses cases of spastic closure of the lower portion of the esophagus simulating organic stricture. These may cause great dilatation of the remainder of the esophagus and have even been fatal. Lerche has developed elaborate technic for the study of these cases, involving measurement of the capacity of the esophagus as well as esophagoscopy and radioscapy. He also describes methods of local treatment by dilators, electrodes and applicators. [F. W. P.]

#### THE LANCET.

MARCH 23, 1912.

1. \*BAINBRIDGE, F. A. *The Milroy Lectures on Paratyphoid Fever and Meat Poisoning. Lecture II.*
2. KEITH, A. *Certain Phases in the Evolution of Man.*
3. SULLIVAN, W. C. *Feeble-Mindedness and the Measurement of the Intelligence by the Method of Binet and Simon.*
4. BADGEROW, G. W. *Pharyngeal Suppuration: Course and Direction of Various Types.*
5. CLOWES, E. F. *A Case of Acute Myelitis with Optic Neuritis (Neuromyelitis Optica).*
6. BATTLE, W. H. *Decorative Surgery.*
7. WAGGETT, E. B., AND DAVIS, E. D. *A Case of Pharyngeal Diverticulum.*
8. \*CAMMIDGE, P. J. *The Dietetic Treatment of Diabetes.*
9. RADCLIFFE, J. A. D. *The Immediate Results of Sanatorium Treatment Contrasted with the Results Obtained by a Combined Sanatorium and Tuberculin Treatment.*
10. GILLESPIE, E. *Acute Intestinal Obstruction Caused by*

*the Appendix Vermiformis, the Obstruction Obcurring an Acute Appendicitis.*

11. BUXTON, D. W. *Crawford Williamson Long, the Pioneer of Anesthesia.*

1. In the second Milroy Lecture, Bainbridge describes the distribution of the B. Paratyphosus "B," and discusses the clinical location of the diseases in which this is the infecting agent, as well as the diagnosis, serum reaction, epidemiology and mortality. He then discusses meat poisoning and the clinical characteristics of this condition.

8. Cammidge, discussing the dietetic treatment of diabetes, urges the need of individualization and of treating the patient and not the disease. He reviews the principles of treatment in such cases. [J. B. H.]

#### BRITISH MEDICAL JOURNAL.

MARCH 23, 1912.

1. ALBUTT, T. C. *An Address to the Physician and the Pathologist on Heart Failure.*
2. \*RUSSELL, W. *The Estimation of Heart Power: and the Terms Blood Pressure, Hypertension, Hyperpiesis, Hypertonus.*
3. \*BRYAN, C. W. G. *Serum and Vaccine Therapy in Connection with Diseases of the Eye.*
4. \*MUNRO, J. M. H. *A Case of Addison's Disease Treated with Tuberculin.*
5. \*JONES, A. T. *Statistics of a Series of Eighty-Six Cases of Pneumonia, with a Note on Alcohol in the Treatment.*

2. Russell gives an excellent short general article in which he discusses the various methods of estimating heart power and defines the terms used in connection with the subject. He describes recent experimental work and gives several illustrative cases.

3. Bryan in this paper discusses eye diseases due to general pyogenic organisms, external infections, conjunctivitis, ulcerations of the cornea and post-operative infections and their treatment by means of vaccines.

4. Munro gives the details of a case of Addison's disease treated and apparently cured by the use of tuberculin.

5. Jones, though formerly using alcohol in the treatment of pneumonia, does not now do so. He contrasts two series of pneumonia patients: the first, thirty-six cases in which alcohol was used, having a mortality of 38%, while the second, without alcohol, showed a mortality of only 18%. [J. B. H.]

#### THE PRACTITIONER.

APRIL, 1912.

1. \*POWELL, R. D. *On the Medical Aspects of Life Insurance.*
2. \*BONNEY, V. *The Diagnosis and Operative Treatment of Carcinoma of the Vulva, Vagina and Uterus.*
3. \*STUART-LOW, W. *Nasal Catarrh.*
4. \*BARLING, S. *Pneumococcal Peritonitis in Children.*
5. \*WARD, L. E. B. *Some Aspects of Intestinal Stasis in Children and Its Surgical Treatment.*
6. MACLENNEN, A. *The Gridiron Incision; Where to Make It and How to Enlarge It.*
7. GORDON, W. *A Case of Pulmonary Gangrene; Operation; Recovery.*
8. THORNE, L. T. *The Relation of the Cardiac Systole to Arterial Tension.*
9. TIRUMURTI, T. S. *Cases Illustrating the Importance of Examining the Scrotum in Tumors of the Abdomen. With Note on Undescended Testis and Malignant Tumors of the Testis.*
10. WEBB, H. G. *The Simplicity of Major Surgery.*

1. Powell in a lengthy article discusses life insurance, its history and development and the relation of various diseases, particularly tuberculosis, to it. He discusses methods of examination and gives many tables and figures. The paper is of distinct interest and value to physicians doing insurance work.

2. Bonney briefly discusses the diagnosis and operative treatment of carcinoma of the vulva, vagina and cervix and body of the uterus. He describes the details of the various operations.

3. Stuart-Low believes nasal catarrh to be far more im-

portant than it is generally considered. He discusses the nature of the discharge in various conditions, methods of examination, etc. He believes it to be the reason why certain people are susceptible to colds in the head and others not. He describes the normal nose, and the various operations and treatments used in relieving abnormal conditions.

4. Barling's paper is based on a study of twenty-eight cases of pneumococcal peritonitis, three of which were his own. In addition he has collected from the literature 234 cases which he tabulates. He discusses the various theories as to modes of infection, namely, that the source is from the vagina and female genital organs, from the gastro-intestinal mucosa or, most probable, from a general septicemia. He discusses experimental work, pathological anatomy, clinical features, diagnosis, prognosis and treatment. Surgical treatment is practically the only one that offers any hope and even with this, the mortality is high. Vaccine treatment is still *sub judice*.

5. Ward discusses intestinal stasis in children, shows some excellent bismuth meal x-ray plates, and concludes that in certain instances intestinal stasis similar to that in the adult may occur in the child, and that it has a profound bearing on the course of certain diseases, tubercular joint disease, ulcerative colitis, etc. The disease can be effectually cured by ileo-colostomy and the cure of the stasis is followed by relief of the child's symptoms local and general. [J. B. H.]

#### EDINBURGH MEDICAL JOURNAL.

APRIL, 1912.

1. \*CAIRD, F. M. *The Treatment of Tuberculous Peritonitis in Adults. A Record of Thirty-one Cases.*
2. CATHCART, C. *The Treatment of Simple Fractures.*
3. \*JAMES, A. *Trauma as a Factor in Disease.*
4. M'NEIL, C. *Tuberculous Infection in Infancy and Childhood, as Revealed by the Cutaneous Tuberculin Test: An Analysis of 541 Cases.*
5. THATCHER, L. *On Pylosis Palmaris et Plantaris, with Report of Three Cases.*
6. STEWART, I. S. *Pipette for the Collection of Discharges for Bacteriological Examination.*

1. Caird discusses thirty-one cases of tuberculous peritonitis in adults, going over the symptoms, sex incidence, etc. He makes the usual classification of those cases. He discusses operative treatment with immediate and remote results, but makes little or no mention of tuberculin and hygienic treatment.

3. James, continuing his paper on trauma and its relation to disease, presents a large number of cases of various brain and cord disorders in which trauma seems to have played an important part in the etiology.

4. This article is an excellent general summary of the subject of the incidence of tuberculosis in infancy and childhood, its diagnosis by the cutaneous tuberculin reaction and the value of treatment with tuberculin. There is nothing new in the article, but it is an excellent general review of the subject. [J. B. H.]

#### DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT. No. 12.

MARCH 21, 1912.

1. CRAMER, A. *The Diagnosis of Diseases of the Nervous System following Accidents and Nervous Concussions.*
2. ROSENBAACH, F. *Results of the Use of Rosenbach's Tuberculin in Surgical Tuberculosis.*
3. BLUMENTHAL, F. *Chemo-Therapeutic Problems.*
4. \*BECKER, G. *Recent Points in Anthrax Treatment.*
5. \*TUSCHINSKY, M. *Treatment of Malaria with Salvarsan.*
6. SCHÜRER, J. *Critical Essay of the Knowledge of Mushroom Poisoning.*
7. KATSER, C. *Results of Roentgen Ray Experiences and the Glycyl-Tryptophan Reaction in the Diagnosis of Gastric Cancer.*
8. HOCHSTETTER. *Curability of Tubercular Meningitis.*
9. ROEPKE, O. *Recent Status of the Diagnosis of Tuberculosis.*
10. SCHLESINGER, E. *Effect of Summer Heat on Infants and Older Children.*

11. HIRSCH, J. *Treatment of Puerperal Fever with a Silver and Arsenic Compound Called Arzsalozyl.*
12. LÜDERS, C. *Periodic Swelling of the Parotid Gland.*
13. MÜLLER, R. *Afridol Soap.*

4. Becker has worked on the treatment of anthrax infections by the use of salvarsan and serums. The prognosis in cases in which the bacilli have reached the blood has been always bad. The results with the anthrax serum have not been startling; however, he thinks that they are worthy of consideration, and advises further use of the serum. With salvarsan the results have been very satisfactory provided that it has been given very early. He thinks considerable hope lies in the use of salvarsan.

5. Tuschinsky runs over in a brief article a few of the different attempts to cure malaria with salvarsan. The tropical form of malaria although temporarily favorably influenced by salvarsan is not cured. On the other hand, tertian malaria may be cured by two doses of 0.5 g. ten days apart. [C. F., Jr.]

No. 13. MARCH 28, 1912.

1. KILLIAN, G. *Treatment of Laryngeal Tuberculosis.*
2. ROSENBAACH, F. *Results of the Use of Rosenbach's Tuberculin in Surgical Tuberculosis.*
3. ROEPKE, O. *Present Status of the Diagnosis of Tuberculosis.*
4. SONNENBURG, E. *Question of Traumatic Tuberculosis.*
5. HOFFMANN AND BUDDE. *Tincture of Iodine — Calgut.*
6. HEILE. *Treatment of Prolapse of the Rectum.*
7. \*GUDZENT, F., AND APOLANT. *A Simple Method for Demonstration of Uric Acid in Blood and Other Colloidal Fluids.*
8. FLACHS, R. *Dentition.*
9. KLOSE, E. *Results of Orthopedic Treatment for Infantile Paralysis.*
10. RASKIN, M. *Additions to the Method of Staining Diphtheria Bacilli at Once with a Differential Stain.*
11. HOFFMANN, E. *Combined Mercury and Salvarsan Treatment of Syphilis.*
12. WROBBEL, G. *Technic for Treatment of Seasickness.*

7. Gudzent and Apolant present in a short article a method of determining the amount of uric acid in a small amount of blood, namely, 20 ccm. The method is a simple one and should be of considerable practical value in studying certain classes of cases. [C. F., Jr.]

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 11.

MARCH 12, 1912.

1. \*STRAUB, H., AND SCHLAYER. *Uremia, and Acid Poisoning.*
2. \*BENNECKE. *Our Lack of Success with Blood Transfusion in Pernicious Anemia.*
3. \*V. GROFF, E., AND V. ZABEZYCKI, J. *The Cobra Poison Horse Hemolysis in Pregnancy and Carcinoma.*
4. \*KÖNIG, F. *The Radical Cure of Large Hernias, Particularly Abdominal Hernias, by Soldering.*
5. DENIG, R. *A Surgical Treatment for Injuries to the Eye from Lime.*
6. SKUTETZKY, A. *Studies of Metabolism in a Case of Polymyositis Acuta.*
7. \*KOERBER, E. *Treatment of Scarlet Fever with Enkolyptin.*
8. MÜLLER, T. *Use of Quinine in Parturition.*
9. BAREANOVICH. *Radical Treatment of Malaria with a New Arsenic Silver Compound, "Argentarsyl."*
10. DALMER. *Extrusion of an Enterolith through the Bladder.*
11. JANUS, F. *Technic of Röntgenotherapy of Deep Tissues.*
12. LINDNER, H. *The Gastric Ulcer from a Surgical Standpoint. (Concluded.)*
13. \*NASSAUER, M. *Treatment of the Vagina with Powders. (Concluded.)*
14. \*LOENING. *Phenyldimethylpyrazolonamidomethansulphon Acid Sodium, a New Antipyretic and Specific for Acute Rheumatism. (Concluded.)*

1. The writers present a preliminary report of studies of the CO<sub>2</sub> tension of the alveolar air estimated by Haldane's method. It has been shown that the CO<sub>2</sub> tension of the

alveolar air is constant in health, that it corresponds with that of the arterial blood and that acidity of the blood from any cause diminishes it because other acids act in the same way as does  $\text{CO}_2$  in stimulating the respiratory center by which, normally, the  $\text{CO}_2$  tension is kept at a uniform figure. Eight uremic patients were studied and over 100 observations recorded. The results all show diminished  $\text{CO}_2$  tension when the symptoms were severe and increase of tension when improvement occurred. Tests for acetone and diacetic acid made in all cases were negative. No final conclusions are attempted because of the insufficient data, but the evidence so far obtained supports strongly the hypothesis of the writers that uremia is an acid poisoning but that the acids found in diabetes are not concerned in it.

3. Having made a large number of tests of the cobra poison horse hemolytic system on normal individuals, on patients having various diseases and on cases of benign or malignant tumors, the writers conclude that although the reaction is positive in about 80% of malignant tumors it is not valuable for diagnosis because not specific. It occurs frequently in cases of benign tumor and also after removal of malignant tumors in the absence of recurrence.

The reaction, however, gave important results when applied to a series of pregnant women. It was negative or but slightly positive in the early months but strongly positive after the fourth month and persisted for a time after labor.

4. König describes a method of "soldering" the wound after the removal of large hernias by which he has been successful in fourteen cases. He removes a piece of peritoneum from the tibia and transplants it to help cover the hole.

13. Nassauer recommends the use of powders in a variety of vaginal conditions in preference to tampons or other forms of treatment. (His article is too long to be briefly reviewed but should be of interest to many.)

14. In this number is concluded a long article on the above-named drug, also called No. 844. The drug was given to sixty-three patients and a short record of each case is provided. The writer thinks that the drug acted more promptly than does salicylate in acute rheumatism (but his evidence of this is not convincing). He obtained good results also in sciatica and in chronic arthritis and in myositis. No ill effects were observed even in the presence of endocarditis, but caution is recommended before giving large doses to feeble persons. [G. C. S.]

#### No. 12. MARCH 19, 1912.

1. KROGIUS, A. *How Can We Reach Agreement in the Question of Appendicitis?*
2. CRÄMER, F. *Cecum Mobile and Chronic Appendicitis.* (To be continued.)
3. \*GOLDMANN, E. *The Question of Return Movement in the Tubular Systems.*
4. \*HAMBURGER, F. *Late Forms of Tuberculosis.*
5. BERGER, S. *Hemolysis, Lipolysis and the Role of the Granuleless Basophilic Cells.*
6. EDEN, R. *Treatment of Luxatio Peroneorum.*
7. \*DIETRICH, H. A. *Statistical and Etiological Observations on Ulcus Pepticum Duodeni.*
8. HOFMANN, E. *The Complete Removal of the Tonsils.*
9. HUPFICH. *Harmful Effects of Camphor.*
10. NAST-KOLB, A. *Tying the Arteria Glutea Inferior on Account of Subcutaneous Traumatic Rupture.*
11. MÜLLER, H. *Rare Complications from a Meckel's Diverticulum.*
12. PHILIPPI, H. *A New Disinfectant for Sputum and Sputum Cups.*
13. PORT, K. *An Apparatus for Recording the Shape of the Ribs in Scoliosis.*

2. Goldmann reviews the results of a number of experiments and clinical observations by himself and others which show that not only bacteria but small inanimate particles are transported through the intestines and bile passages in a direction opposite to that of most of the contents. He offers further evidence to show that a similar movement of particles actually or hypothetically may occur in the genital and urinary organs and in the glands having ducts, e. g., the breast. This phenomenon seems to be common to tubes lined with mucous membrane and it

readily accounts for ascending infections in the above-named organs without supposing that the bacteria themselves have the power to stem the excretory currents. The writer thinks that partial obstruction favors this return movement and it certainly is important in aiding the increase of bacteria. No mechanical explanation is offered.

4. The writer discusses the probability that many cases of phthisis and other tubercular manifestations in adults and in older children are the late clinical manifestations of a tubercular infection which occurred in early childhood. From this point of view the marked clinical differences in the tuberculosis of young children and that of adults can be attributed to the early and late developments of the disease, and phthisis, joint and genito-urinary tuberculosis may be spoken of as "tertiary lesions" arising from a primary infection many years old which either gave no physical signs or which was apparently healed. Leprosy may be similarly regarded.

7. Dietrich's statistics for autopsy material show clearly that gastric ulcer is about equally common in men and women but that duodenal ulcer is much more frequent in men. The evidence contradicts the reputed relation between external burns and peptic ulcer. The writer groups together seven post-operative cases and one that died of strangulated hernia. In all of these cases there were ulcers in stomach or duodenum or in both that were fresh. (The total number of ulcer cases tabulated was 134, and this list does not include the erosions, so that eight out of that number is not a large proportion.) The writer remarks that these eight patients suffered from a variety of other diseases but thinks that a relation may later be shown between ulcer and trauma by operation. [G. C. S.]

#### WIENER KLINISCHE WOCHENSCHRIFT. No. 14.

APRIL 4, 1912.

1. \*FUCHS, E. *Tabes and the Eye.*
2. NEUGEBAUER, H. *The Pathogenesis of Catarrhal Jaundice.*
3. PUPOVAC, D. *The Employment of Non-Pedicle Flaps from the Fascia Lata in the Mobilization of Ankylosed Joints.*
4. ZADKO, E. *The Question of Heliotherapy.*

1. Fuchs recognizes tabes as a metasymphilitic affection, usually following syphilis of mild course. It is distinguished from syphilis by being inaccessible to specific treatment. The diagnosis of tabes from syphilis depends on the four following points:

- (a) Frequent change of symptoms favors syphilis.
- (b) Myosis and loss of pupillary reflex to light occur chiefly in tabes; total pupillary rigidity or dilation of the pupil with paralysis of accommodation, in syphilis.
- (c) Simple optic atrophy is very frequent in tabes, but very rare in syphilis. In tabes the papilla is pale from the outset, in syphilis the pallor is of gradual onset.
- (d) A good and quick result after antisymphilitic treatment favors syphilis. [R. M. G.]

#### DEUTSCHES ARCHIV FÜR KLINISCHE MEDIZIN. Bd. 105.

HEFT 5-6. FEB. 23, 1912.

1. \*PENDE, N. *Clinical Description and Pathogenesis of Infantile.*
2. \*HERZOG, F. *Electrocardiogram in Arrhythmia.*
3. \*VEIEL, E. *Importance of the Form of the Pulse. Investigations with O. Frank's Mirror Sphygmograph on Healthy and Sick Men.*
4. \*MÜLLER, O., AND WEISS, E. *Topography, the Origin and Importance of Human Sphygmograms.*
5. \*OTTEN, M. *Importance of the Orthodiagraph for the Recognition of Incipient Cardiac Dilation.*
6. HASSELBALCH, K. A. *Chemical Regulation of Respiration and the Average Lung Capacity.*

1. In this lengthy article with a considerable review of the literature Pende takes up the description of infantile and shows how difficult it is to decide what cases belong in the group. He mentions the different methods of measurements worked up by some writers and presents cases. He also takes up the question of the relation of the glands of internal secretion to this condition.

2. Herzog takes up the curves as shown by the electro-

cardiogram in the different varieties of cardiac arrhythmia and points out the peculiarities of each. He considers extrasystoles, respiratory arrhythmia, arrhythmia from different kinds of vagus stimulation, arrhythmia perpetua, paroxysmal tachycardia and dissociation.

3 and 4. These two articles take up the question of pulse tracings and show the possibilities to be derived from this work in regard to acquiring a knowledge of the condition of the heart and big blood vessels.

5. In a very extensive article with a most complete bibliography on the subject dating back to 1897, Otten brings out the value of the orthodiagraph in determining the size of the heart. The article is illustrated with many drawings containing measurements of the different diameters under different conditions. [C. F., Jr.]

### Obituary.

ANGUS FRASER, M.A., M.D., C.M., LL.D.

DR. ANGUS FRASER, who died on April 2 at Aberdeen, Scotland, was born in that city on Dec. 25, 1838. He was educated at the local schools and in 1858 took his master's degree in arts at Marischal College, University of Aberdeen. Continuing his medical studies at his own university, he received the degree of M.D. in 1862, and after two years spent as a hospital interne in Paris began the practice of his profession in Aberdeen. He was immediately appointed one of the physicians of the Aberdeen Dispensary and continued in that position until 1871, when he became physician to the Aberdeen Royal Infirmary and lecturer on clinical medicine at the University of Aberdeen.

At a time when the microscope was little known to students of medicine, Dr. Fraser made himself an expert in its use, and kept in touch with the new sciences of pathology and bacteriology throughout their development. He was also an accomplished chemist, and conducted early valuable original research on the constituents of the urine and the composition of urinary calculi. It was as a clinician and as a teacher, however, that he rendered his most distinguished work. For forty years he zealously and efficiently served his hospital, his university and his community. His geniality, optimism and conservative skill brought him great success as a practitioner, and he became the leading medical consultant in the north of Scotland. Besides serving in the Royal Infirmary, he was physician to the Aberdeen Deaf and Dumb Institution, medical officer of the Aberdeen Post-Office Staff and certifying surgeon for the Aberdeen factories. For nearly thirty years he was a member of the local militia and retired as brigade surgeon lieutenant-colonel of the First Volunteer Battalion of the Gordon Highlanders. He was a member of the various medical societies of his city and district, and a Fellow of the Obstetrical Society of London, and in 1892 was appointed representative from his university to the General Medical Council. As a teacher he was admired and respected by students for his wide knowledge, sympathy and skill in instruction. He was the inventor of the multiple stethoscope, by which all the members of a section could listen with him simultaneously to cardiac and respiratory sounds. His genius and

his humanity went hand in hand and made him everywhere beloved.

Dr. Fraser was never married, but was perhaps for that reason the more endeared to a wide circle of friends. His favorite diversion was the study of general literature, and in his large library he developed in leisure moments the widely cultivated personality which distinguished him as an educated Scotch physician of the finest type, noted not only in his own city but throughout Great Britain.

### Miscellany.

ISAAC EBENEZER TAYLOR, M.D., A CENTENNIAL MEMORIAL.

ONE hundred years ago to-day, on April 25, 1812, was born, at Philadelphia, Isaac Ebenezer Taylor, one of a family of eight children. He was educated at Rutgers College, and subsequently received the degrees of M.A. and M.D. from the University of Pennsylvania. After practicing his profession for a year in New York City, he went abroad in 1840, and studied under Cazeaux in Paris and in the Rotunda at Dublin. On his return he was given charge of the gynecologic departments of the City, Eastern, Northern and Demilt Dispensaries in New York. He was a founder and for a time president of the Bellevue Hospital Medical College and of the New York State Medical Association. He was also one of the founders of the *New York Medical Journal*, to which and to the *Transactions* of the New York State Medical Association he was a frequent contributor. He is particularly to be remembered for his demonstration of the non-shortening of the cervix during pregnancy and for his introduction of the hypodermic administration of morphia. He was physician to the Bellevue Hospital, honorary member of the Medical Society of Christiania, president of the New York County Medical Society, vice-president and fellow of the New York Academy of Medicine, president of the Obstetrical Section of the Academy of Medicine and vice-president of the Society of American Gynecologists. He died on Oct. 30, 1889, and his obituary was published in the issue of the JOURNAL for Nov. 7 (vol. cxxi, p. 474).

Dr. Taylor was an obstetrician and gynecologist of considerable local and contemporary distinction, and a pioneer in his specialty in America. The centennial anniversary of his birth recalls pleasantly the memory of the life and works of this honored medical worthy of a past generation.

### Correspondence.

AN ELIZABETHAN QUACK.

Boston, April 18, 1912.

Mr. Editor: It is of interest to look back and read of the sharp distinction which was given between quackery and legitimate medicine even in Elizabethan times.

The enclosed quotation is from Clowes: "A Proved Practice for All Young Chirurgians Concerning Burning with Gunpowder (1591).



William Clowes, the author, was one of the best known of Elizabethan surgeons, being in fact at one time surgeon to Queen Elizabeth, as well as surgeon to St. Bartholomew's from 1575 to 1585. He was also in the army and later in the navy, and was with the fleet which defeated the Armada.

Very truly yours,  
WM. PEARCE COUES, M.D.

#### "THE BOASTING OF A QUACK.

"Then riseth out of his chair, fleeing and jeering, this miraculous surgeon, gloriously glittering like the man in the moon with his bracelets about his arms therein many precious jewels and stones of St. Vincent his rocks, his fingers full of rings, a silver case with instruments hanging at his girdle, and a gilt *spatula* sticking in his hat with a rose and a crown fixed on the same, standing upon his comparisons and said unto me that he would open the wound, and if it were before my face: for (said he) my business lies not in London, but abroad in the country and with such persons that I cannot nor will not tarry for you nor for no other whatsoever. And now here he did begin to brag and boast as though all the keys of knowledge did hang at his girdle, for he said he had attained unto the deep knowledge of the making of a certain quintessence which he learned beyond the seas of his master, one Bornelious, a great magician. This shameless beast letted not to say that if a man did drink of this quintessence continually every day a certain quantity, the virtue thereof was such that a man should not die before the day of the great Judgment, and that it would preserve in that state he was in at thirty years of age and in the same strength and force of will although a man were one hundred or six score years of age. Moreover his plaister was answerable under this and forsooth he called it the only plaister of the world and that he attained unto it by his great travail cost and charge and that it was first sent from God by an angel unto a red hill in Almayne, where was in time past a holy man which wrought great marvels only with this plaister, and he never used any other medicine but only this. His precious balm or oil he said no man had, but only he, and that it was a rare thing to be had or found, as to see a black swan or a winter swallow, and he called it the secret of the world, which is his common vaunting phrase: but God knows the medicines were no such thing but only shadowed under the vizard of deceit and a bait to steal fame and credit and catch or scrape up money or ware, for all is fish that cometh under his net. Then this gaudy fellow with his peerless speeches said that he had done more good cures with his said quintessence, his only plaister and his precious balm than any one surgeon in England had done or could do with all the best medicines and remedies they have. And, moreover, said that he spoken nothing but that which he would stand to and prove it. And that he did know that it was not necessary for us common surgeons (as it pleased the bragger to call us) to use such a number of medicines as we do."

#### APPOINTMENTS.

DR. JAMES A. BABBITT, of Haverford College, has been appointed professor of hygiene and physical education at that institution.

DR. E. I. WERBER, of Johns Hopkins University, has been appointed instructor in anatomy at the University of Wisconsin.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The annual meeting will be held at the Boston Medical Library, 8 The Fenway, Saturday, April 27, 1912, at 8.15 P.M. Paper by Dr. Farrar Cobb: "Cancer of the Uterus; What are the Operable Cases, and What is the Operation of Choice: with a Study of 310 Cases at the Massachusetts General Hospital from 1900 to 1910." Discussion by Drs. Fred B. Lund, Charles A. Porter, and William P. Graves. Business: Report of the Librarian, Treasurer, etc. Election of officers. Refreshments after the meeting.

FRANK B. HARRINGTON, M.D., President.  
WALTER C. HOWE, M.D., Secretary.

#### RECENT DEATHS.

DR. PAUL C. FREER, director of the United States Bureau of Science in the Philippines, died on April 17 at Manila, P. I. He was born in Chicago in 1862, and received the degree of M.D. from the Rush Medical College. He was for a time professor of chemistry in the University of Michigan, later superintendent of the United States government laboratories at Manila. He was appointed director of the Bureau of Science in 1905. Since 1908 he has been also dean of the Philippine Islands Medical School.

DR. JAMES WILSON HANNUM, who died on Dec. 9, 1911, at Indian Orchard, Mass., was born in 1851. He was a Fellow of The Massachusetts Medical Society.

DR. HENRY A. FRANCE, of Far Rockaway, Borough of Queens, N. Y., died on April 15, at the age of seventy-nine years. He was born in Herkimer County, New York, and was graduated from the Albany Medical College in 1864. During the Civil War he served for a time in the First Regiment, New York Volunteers. Dr. France had practiced for many years at Far Rockaway, and was formerly postmaster there.

#### BOOKS AND PAMPHLETS RECEIVED.

The Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Second Annual Report. Washington, D. C. 1911.

Bulletin of the Massachusetts Institute of Technology. Summer Courses, 1912.

Personal Reminiscences of Lord Lister. By Henry O. Marcy, Boston. Reprint.

The Story of a Doctor's Telephone. Told by his Wife. By Ellen M. Firebaugh. Roxburgh Publishing Co.

Real and Pseudo-Expert Medical Testimony before Courts and Juries. By C. H. Hughes, M.D. St. Louis. Reprint.

Movable Cecum and Typhlotomy. By Otto Lerch, A.M., M.D., Ph.D., New Orleans. Reprint.

Notes de Pathologie Digestive. Par M. Loeser et Ch. Esmonet. Reprint.

Diagnostic et Traitement de l'Uretrite Posterieure Chronique. Par le Georges Luys. Reprint.

Fatigue. By Dr. F. L. Wells, Waverly, Mass. Reprint.

The Relation of Practice to Individual Differences. By Frederick Lyman Wells, Ph.D., Waverly, Mass. Reprint.

#### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, APRIL 6, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	7	—
Chicago.....	758	215	Waltham.....	4	1
Philadelphia.....	—	—	Brookline.....	5	1
St. Louis.....	—	—	Chicopee.....	11	4
Baltimore.....	—	—	Gloucester.....	10	1
Cleveland.....	—	—	Medford.....	6	1
Buffalo.....	—	—	North Adams... 4	1	1
Pittsburg.....	—	—	Northampton... 9	9	2
Cincinnati.....	—	—	Beverly.....	2	1
Milwaukee.....	—	—	Revere.....	5	1
Washington.....	—	—	Leominster.....	3	—
Providence.....	—	—	Attleboro.....	5	—
Boston.....	226	48	Westfield.....	3	—
Worcester.....	48	9	Peabody.....	—	—
Fall River.....	41	11	Melrose.....	5	—
Lowell.....	39	11	Woburn.....	3	2
Cambridge.....	22	7	Newburyport... 5	1	—
New Bedford... 30	8	—	Gardner.....	3	2
Lynn.....	31	3	Marlboro.....	2	1
Springfield... 26	10	—	Clinton.....	6	1
Lawrence.....	23	6	Milford.....	—	—
Somerville.....	23	5	Adams.....	—	—
Holyoke.....	16	3	Frammingham... 1	—	—
Brockton.....	15	8	Weymouth.....	—	—
Malden.....	6	1	Watertown.....	2	0
Haverhill.....	17	6	Southbridge... 5	2	—
Salem.....	12	1	Plymouth.....	—	—
Newton.....	8	1	Webster.....	2	0
Fitchburg.....	15	7	Methuen.....	—	—
Taunton.....	18	8	Wakefield.....	3	1
Everett.....	8	2	Arlington.....	8	1
Quincy.....	—	—	Greenfield.....	5	—
Chelsea.....	9	1	Winthrop.....	5	1





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Supracapsulin  
(Cudahy) over all  
other epinephrin  
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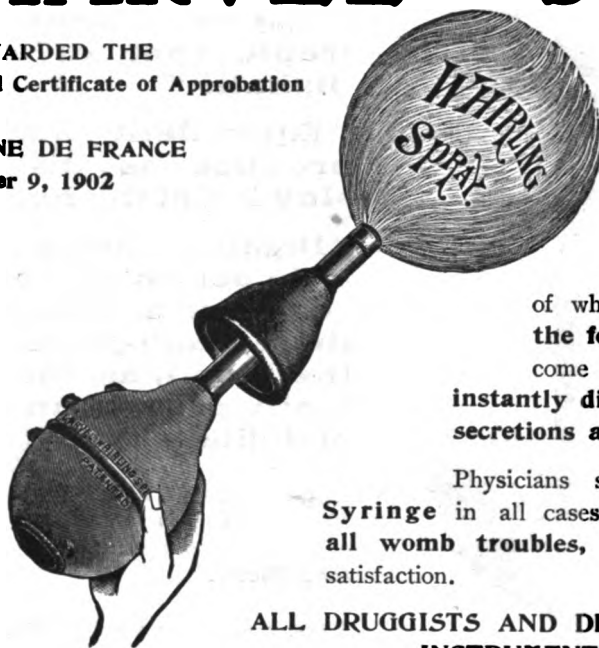
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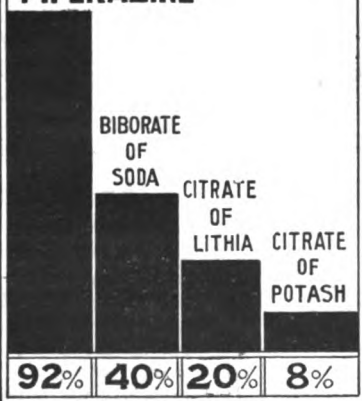
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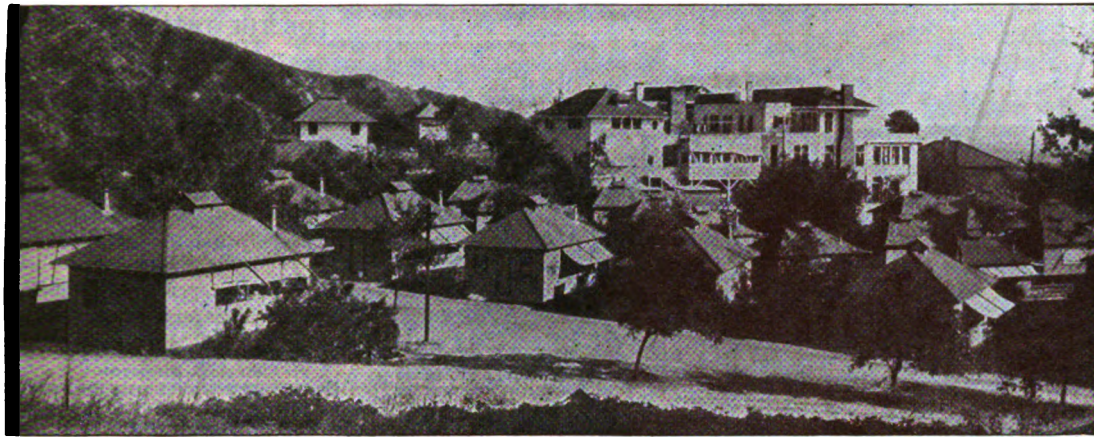
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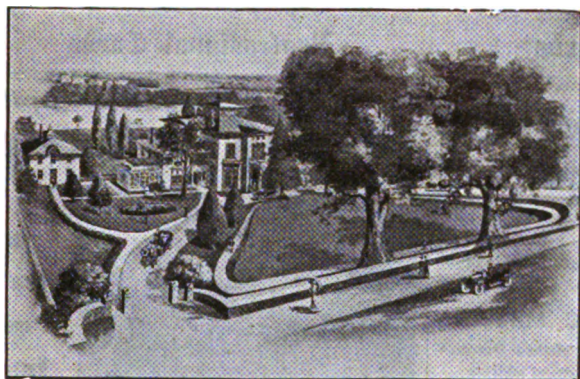
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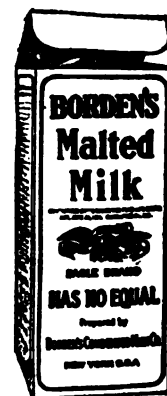
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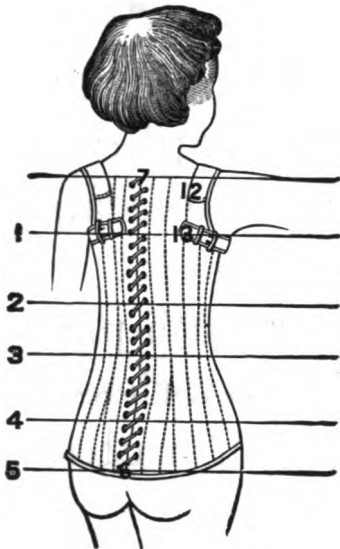
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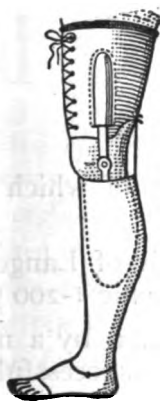
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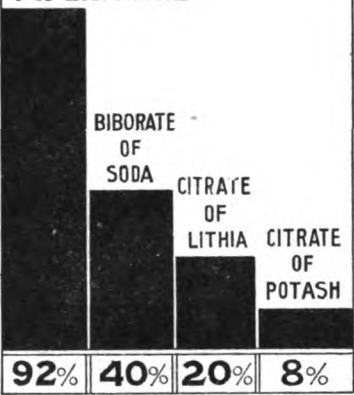
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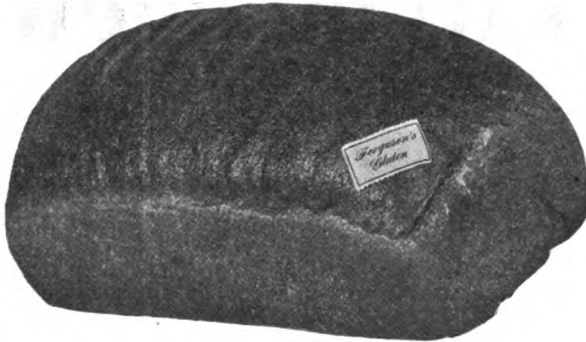
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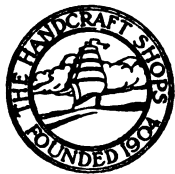
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**Address.****THE INFLUENCE OF ANTIVIVISECTION ON CHARACTER.\***

BY W. W. KEEN, M.D., PHILADELPHIA.

"In this controversy [vivisection] there should be no bitterness. Do not let us attempt to browbeat or call names. . . . Vivisection tends to weaken character. . . . Nothing which hurts the character can be right." (Rev. Dr. Floyd W. Tomkins, President of the American Antivivisection Society, in the *Ladies' Home Journal*, March, 1910.)

**Arch-Fiend:**

I read with horror you article in the *Ladies' Home Journal* on vivisection.

I hope your mother if she is living will die in the most terrible torture, and if she is dead that her soul will never know rest for having given life to such a vile monster as you is the nightly prayer of

a dozen women who

indited this

Photograph of a letter received by myself in August, 1910. Both envelope and letter were typewritten, with no place, no date and no signature; only the postmark showed that the letter came from Los Angeles.

I ACCEPT the test proposed by Dr. Tomkins, and quoted in the above motto, "Nothing which hurts the character can be right." Let us, therefore, study what is the effect of antivivisection on the character of its advocates.

I. The most violent and vindictive passions have been aroused and fostered, especially among women — the very flower of our modern civilization. Let us see whether they have shown "bitterness" or "called names." I have rejected much oral testimony I could use and have drawn my evidence from only a very small portion of the literature at my disposal.

At the beginning of this article I have placed the photograph of a remarkable letter which contains an asserted prayer to the deity calling down curses by "a dozen women" upon my long-since sainted mother. It needs no comment from me save that the "horror" mentioned in this letter was excited by an article which I published in the *Ladies' Home Journal* for April, 1910, in which I recited a few of the *benefits to humanity* which had resulted from vivisection. The only clue even to the place from which the letter comes is the postmark.

Let me quote another earlier anonymous letter I have before me. This is from Philadelphia. Instead of the usual address "Dear Sir," it begins, "You Fiend." I had not then been promoted

to "Arch-fiend" in Satan's Hierarchy. The writer exclaims, "Oh, that you all could be put through the same torture that you inflict on these helpless ones." As I am not a vivisectionist this ardent wish fails to terrify. I am an advocate of vivisection because I *know* how greatly it has helped me during all my professional life in saving life and suffering.<sup>1</sup>

If two letters will not convince, here is a third.

This, from Baltimore, also the result of the same article, was from a writer who had the courage to sign her name and address.

"You would appear even the more fiendish on account of your superior intelligence. . . . The future of a vivisectionist is a veritable hell. You, I understand, are a man advanced in years. [the calendar, alas! seems to justify this shocking statement] soon to go before the bar of justice, Can you meet your God with the terrible cries ringing in your ears of these creatures, our helpless brothers, made by his hand, that you have drawn and quartered? How they must haunt you. . . .

<sup>1</sup> In the *American Journal of the Medical Sciences* for July, 1865, p. 67, Dr. S. Weir Mitchell, the late Dr. Morehouse and I published a paper on the "Antagonism of Atropia and Morphia," based upon observations and experiments in the Army Hospital for Injuries and Diseases of the Nervous System. The reason which caused us to make this investigation was that we desired to find better means for "soothing the pain of those terrible cases of neuralgia" following gunshot wounds of large nerves. These are accurately described in the paper as causing "anguish" and "agony," — no word could be too strong. Accordingly, in our efforts we tried a number of common and some uncommon drugs, and finally found that morphine (the active principle of opium) was the best remedy and yet had many disadvantages. Ultimately we found that by combining with it a certain amount of atropine (the active principle of belladonna) we obtained the best results. The facts discovered in our investigations have long since become merged in the common knowledge of the profession, and standard tablets with different proportions of the two drugs are manufactured and used all over the world. Most of our patients operated on (entirely by hypodermic injections) were sorely in need of relief. A few were convalescents. In all cases we avoided telling them what drug was being used, for every one knows how imagination, fear, or other emotion would alter the rate of the pulse or of the breathing. Not one man was injured in the least. Not one ever complained. Many thousands of human beings have been greatly benefited and many lives have been saved through the knowledge thus obtained.

I have expressly mentioned these facts in some detail because we have been attacked in their pamphlets by the antivivisectionists for these experiments, which are described as "human vivisection."

\* An address read before the Surgical Section of the Suffolk District Medical Society, Boston, March 20, 1912.

When your time comes to die, every cry of pain and anguish that you have been the cause of producing in these helpless creatures will follow you to the depths of hell." Yet I have "drawn and quartered" not even so much as a mouse.

But this same lady tells me that she had survived one of the most serious abdominal operations that could be done — an hysterectomy. This operation was so perilous that until Lister had devised the antiseptic method it was never even thought *possible*, and its success at the present day is due chiefly to experiment upon animals. The writer of the letter, therefore, is herself a witness to the benefit of vivisection.

Later on she says, "If they would only use vivisectors for their experiments, it would soon be considered unnecessary." Her gentlest wish, therefore, is for human vivisection, and doubtless "without anesthetics." Per contra, in the newspapers of May 6, 1911, a dispatch states that seventeen medical students had offered themselves for experimental inoculation with cancer, an offer which was, of course, refused, as animals can be used.

A curious statement in the letter is, "I understand the Rockefeller Institute has had four or five of its laboratories burned, the animals destroyed, rather than have them fall into the hands of these wretches, and if this thing were more widely known, every medical college in the country would be razed to the ground and the doctors tarred and feathered." The insurance companies, I am quite certain, have never heard of the one laboratory which the Rockefeller Institute possesses having been burned. But what a strange exhibition of kindness it is to gloat over the fact that the poor animals in these supposed laboratories had been roasted to death "without anesthetics."

If three instances are not sufficient, here is a fourth, — a signed letter from Chicago. Referring to one case which I had published as an illustration of the value of vivisection in saving human life, she says, "My sympathy for the parents of that young man . . . would have been deep, but not so keen as for a mother dog who saw her puppy tortured to death on a dissecting table. . . . Even if you did save a man's life, *was it worth while?*" (Italics in the letter!) This lady wrongly assumes that the puppy was "tortured to death," i. e., without anesthetics. This, I am glad to say, is not true, as I shall show later on. To her question, "Was it worth while?" I can only say, "Ask his father and mother."

And this is the ennobling influence of antivivisection!

A fifth communication is from a lady who was personally acquainted with myself and my family. She sent me a pamphlet with some good advice, ending with the terse injunction, "Do God's work, not the Devil's," and had the courage to sign her name.

A sixth lady sent me (anonymously) an article from one of our magazines, with many marginal annotations and much underscoring. From this I select a few sentences.

"Millions of people regard him [the vivisector] with loathing, and shudder with horror at his name. . . . Frightful as the sufferings of this tortured dog must be, I would rather be in its place than yours when your soul is summoned to its final judgment to receive judgment without mercy. [This seems to be a favorite threat of my correspondents.] May God so deal with every fiend incarnate who has thus tortured defenseless creatures. . . . All the demons and fiends do not dwell in Hades. Some are made in the image of God, but have hearts blacker and more cruel than the arch-fiend himself. These are the vivisectors who 'benefit' mankind."

I have received very many more such letters, — usually anonymous. These six may serve as samples.

I would willingly accept the supposition of unbalanced minds as an explanation and palliation for such letters but for their number and for the fact that they so entirely coincide with almost all the "repulsive literature" (to use Lord Coleridge's words) published by the various antivivisection societies.

A brief search through only a part of my file of this antivivisection literature enables me to cull the following evidences of a similar debasing violence and vindictiveness. The list could easily be extended.

"The art of torture has been carried to a perfection which the devildoms of Spain in the old days of the Inquisition could not equal in ingenuity or pitilessness."

"Vivisection is the anguish, the hell of science. All the cruelty which the human or rather the inhuman heart is capable of inflicting is in this one word. Below it there is no depth. This word lies like a coiled serpent at the bottom of the abyss."

"Animals are dissected alive, — usually without the use of anesthetics."

"The vivisector keeps his victim alive while he cuts it up."

"Vivisection founded on cruelty, supported by falsehood, and practiced for selfish ends."

"The vivisector is less valuable to the world than the animals he destroys."

"A thing I know to be damnable whatever the results."

"An organized system of barbarity."

"Vivisector and criminal become interchangeable terms."

"Cowards who perpetrate hideous crimes."

"Experiments on living animals is a system of long-protracted agonies, the very recollection of which is enough to make the soul sick as if with a whiff and an after-taste of a moral sewer."

"Impious barbarity of the vivisector."

"All other forms of sinful cruelty are comparatively trifling compared with the horrors of vivisection."

"Deliberate dabbling in blood and agony."

"Cruelty the inevitable and odious spawn of secret vivisection."

"Blood-stained hands of the grim tormentors."

"Bloody mass of agony."



"Devilish inventions of unbalanced mentality."

At a hearing before a Committee of the Legislature of Pennsylvania, I heard myself and others who were advocating the humane work of vivisection called "hyenas" by a woman.

Briefer descriptive terms are as follows:

Scientific hells	temples of torment
torture house	cruelty of cruelties
orgy of cruelty	infernal work
halls of agony	hellish wrong
inhuman devil	devil's work
devils incarnate	lust of cruelty
scientific murder	scientific assassination
abominable sin	torture of the innocent
devilish science	black art of vivisection
fiends incarnate	satanic
damnable mean	fiends
arch-fiend	demons
master demon	human monsters
	diabolical vivisection

Antivivisection writers nearly always state, assume or imply that all experiments are "tortures," i. e., that anesthetics are not used. This is wholly erroneous.

In Great Britain, where all experiments are returned to the government, the following table for 1906 (the latest I happen to have) will show how utterly indefensible is such an assumption. It is a fair presumption that about the same average exists in the United States.

Inoculations, etc., not involving any operation,	Per cent. 93.96
Animals killed under anesthetics,	3.44
Animals allowed to recover from anesthetic but nothing likely to cause pain and no further operation allowed without anesthetic,	2.60
	100.00

In other words, only 26 animals out of 1,000 could by any possibility have suffered any pain, and very few of these any serious pain. Is this the torture and agony so constantly harped upon?

Many of the instances cited in antivivisection literature are taken from researches — such as Magendie's — which were made before anesthetics were discovered, over sixty-five years ago. The rest in which real cruelty was inflicted; and which if done now would be condemned by all modern research workers as freely as by the antivivisectionists themselves, were done almost wholly on the continent, and often by persons who are now dead. In discussing vivisection to-day, these should be excluded, or their dates and countries indicated, for the public, ignorant of medical history, are misled into supposing that these persons are living and practicing these methods to-day and in America.

In one of the anonymous replies to my paper on the "Mis-Statements of Antivivisectionists," I am represented as the apologist and advocate of experiments of which twice over at the Senate Committee hearing and again in my letter to Mr. Brown I had expressed my utter disapproval. I am always willing to face a truthful charge, but

it is a hopeless task to meet untruthful charges, especially when the author is ashamed of his own name.

"Hell at Close Range" is the title given by Miss Ellen Snow to a leaflet dealing with the work of the Rockefeller Institute. One would scarcely expect such fierce heat from so frosty a name.

At this Institute, by experiments upon twenty-five monkeys and one hundred guinea pigs, most of which animals recovered, has been discovered a serum that has brought the former death-rate of cerebrospinal meningitis of 75 or 90% down to 20% and less. Is it because of this beneficent work that it is called "Hell"?

At this Institute has been discovered a means of transfusion of blood that has already saved scores of human lives. Is this the reason for calling it "Hell"?

At this Institute a method of criss-crossing arteries and veins, which almost always run alongside of each other, has been discovered by which impending gangrene has been prevented. Does this make it a "Hell"?

At this Institute the cause and the cure of infantile paralysis are being sought. Are such investigations carried on in "Hell"?

Miss Snow in this same leaflet expresses in italics her horror at the idea of the proposition of the Institute "to build a hospital where the experiments may be continued on human beings." It may be of interest to her and also to others to know that this hospital was opened in October, 1910, and that the public, undeterred by her horror, have thronged to it in such numbers that there have not been beds enough for the several hundreds of disappointed applicants.

An editorial in the *Journal of Zoöphyly* for January, 1909, p. 2, records a gift to this Rockefeller Institute, "an institution in New York where vivisection should be practiced with the idea of achieving as great an advance as possible in the war of science against human suffering," and adds, "but the gift only fanned into fury the opposition of the women to experiments on living animals, no matter how great the anticipated benefit." Could cruel passion be better expressed?

Can a cause which so seriously injures the character of its advocates that they indulge in this prolific vocabulary of vituperation by any possibility have an uplifting influence? It eminently fulfills the proposed test — it "hurts the character and, therefore, cannot be right."

Are those who give loose rein to such passion fitted to form a sound and sane judgment upon the subject about which they write? This is especially true when the matter is one so technical as anatomical, physiological, chemical, pathological and surgical investigations as to which they cannot be expected to know and, in fact, do not know anything. Even relatively few medical men are fitted by temperament and training to act as censors of such researches, much less those ignorant of medicine.

I believe that much of the passion shown in the above quotations is the result of ignorance. Most of the attacks upon vivisection, as I have said,

assume or even state categorically that anesthetics are not used. Saving in the very rare cases in which the use of anesthetics would entirely frustrate the experiment, anesthetics are always used. This is done not only for reasons of humanity, but also because the struggles of a suffering animal would make delicate and difficult operations absolutely impossible, to say nothing of the danger of injury to the operator.

The always-quoted opinion of Professor Bigelow was founded upon what he had seen at the Veterinary School at Alford, France, in the pre-anesthetic days. Many absolutely false statements are made that anesthetics were not used in certain specified experiments, whereas the experimenters have expressly stated that anesthetics were used. Of such mis-statements by antivivisection authors I shall give some startling instances later. It is no wonder that the public has been thus misled. "Cutting up men and women alive" is an accurate description of every surgical operation, but we all know that while in comparatively few reports of surgical operations it is expressly stated that an anesthetic was used, such use "goes without saying."

One of the most frequent antivivisection statements is that "incomplete" or "slight" or "light" anesthesia means that the animal is fully able to feel pain and that when the eyes resent a touch or there is muscular movement following any act which would be painful when one is not anesthetized, pain is actually being inflicted. Mr. Coleridge says (Question 10,387 in his testimony before the Second Royal Commission on Vivisection), "What does 'anesthetized' mean? It means 'without feeling.' You cannot be slightly without feeling. You either feel pain or you do not."

Very recently when I had nitrous oxide gas given several times to a lady to bend a stiff elbow she struggled and writhed so hard as almost to throw herself out of the dentist's chair on to the floor. *Yet she was never conscious of the slightest pain.* In other words, while the motor nervous centers responded to my forcible bending movements and caused violent muscular struggles, the perceptive nervous centers felt no pain. But any spectator would surely have said that she was being "tortured." This is only one of hundreds of similar cases I and all surgeons have had.

In modern laboratory researches, ether or other anesthetics are almost always given. Extremely few exceptions occur, and then only with the consent of the director in each specific case. The actual conditions at the present day are well shown by the rules in force in practically all American laboratories of research. These rules have been in operation for over thirty years in one case and for more than ten years in others. In most laboratories in which students work, and where they are absolutely under the control of the director, the only animal used is the frog, and by "pithing" or decapitating it, it is made wholly insensible to any pain.

The idea that students privately "torture"

animals, often, it is stated, out of mere curiosity, is absolutely false. I have been intimately associated with students ever since 1860, first as a student and since 1866 as a teacher. I state, therefore, what I am in a position to know. Moreover, private experimental research takes time which our over-worked students do not have, and money which they cannot afford. It means the rent of a laboratory, the purchase of very expensive and delicate instruments, the rent of an animal room, the cost of the animals, and of their food and care, a man to look after them—for all modern surgical work on animals must be done with the same strict antiseptic care as on man or the experiment will surely fail and discredit the author—a total expense amounting to a very large sum.

I quote these rules in full:

#### RULES REGARDING ANIMALS.

I. Vagrant dogs and cats brought to this laboratory and purchased here shall be held at least as long as at the city pound, and shall be returned to their owners if claimed and identified.

II. Animals in the laboratory shall receive every consideration for their bodily comfort; they shall be kindly treated, properly fed, and their surroundings kept in the best possible sanitary condition.

III. No operations on animals shall be made except with the sanction of the director of the laboratory, who holds himself responsible for the importance of the problems studied and for the propriety of the procedures used in the solution of these problems.

IV. In any operation likely to cause greater discomfort than that attending anesthetization, the animal shall first be rendered incapable of perceiving pain and shall be maintained in that condition until the operation is ended.

Exceptions to this rule will be made by the director alone, and then only when anesthesia would defeat the object of the experiment. In such cases an anesthetic shall be used so far as possible and may be discontinued only so long as is absolutely essential for the necessary observations.

V. At the conclusion of the experiment the animal shall be killed painlessly. Exceptions to this rule will be made only when continuance of the animal's life is necessary to determine the result of the experiment. In that case, the same aseptic precautions shall be observed during the operation, and so far as possible the same care shall be taken to minimize discomforts during the convalescence as in a hospital for human beings.

(Signed)

Director of the Laboratory.

I may add that at the Rockefeller Institute regular trained nurses are employed and are on duty not only during the day, but at night when necessary.

Self-confessed total ignorance of a subject on which one gives extensive evidence is not often known, but Dr. Herbert Snow, of London, an authority among the antivivisectionists, is a case in point. Dr. Snow's evidence before the Royal Commission on Vivisection (1906) covers ten pages quarto and he answers 326 questions. In 1911 Dr. Snow visited America. In a letter in the Philadelphia *Ledger* of March 6, 1911, he makes the almost incredible statement that he

gave all this evidence "in utter ignorance of the vivisection question."

Moreover, when asked by the Commission (Question 2242), "Do you find any fault with the present gentlemen who are licensed under the act?" he replied, "I do not," and again (Questions 2227 and 2228) he admits that both painful and painless experiments may sometimes be necessary.

But in other cases ignorance of physiology and anatomy is shown which would only excite a smile did it not gravely mislead the reader. I shall only give a single illustration here. Others will be found elsewhere in this paper.

"The Nine Circles," with its sulphurous subtitle, "Hell of the Innocent," is an English book originally issued by the late Miss Frances Power Cobbe, in 1892. This edition had to be withdrawn on account of its false statements, especially as to the non-use of ether (see pp. 33-37). A second and revised edition was issued in 1893. This was "carefully revised and enlarged by a sub-committee especially appointed for the purpose," as the preface states.

On page 15 of the revised edition, it is correctly stated that Prof. Henry P. Bowditch, of the Harvard Medical School, in some experiments upon the circulation, etherized a cat and that "then its sciatic nerve was divided, etc." The sciatic nerve is the largest nerve in the body of man and animals and passes down the back of the leg. After division of the nerve the portion going down the leg *below* the place where the nerve was divided was stimulated by an electrical current. As this part of the nerve was wholly cut off from the spinal cord and brain, *by no possibility could any pain be felt*. Yet a Boston lawyer, in a leaflet published by the New England Antivivisection Society, comments on a similar experiment as follows: "It will be readily seen even by the casual reader that it involves an amount of agony beyond which science is unable to go." Just how the "casual reader" would be so well informed as to physiology when a lawyer and two doctors — not casual but intelligent and careful readers — got things totally wrong, is not stated. Dr. Bowditch published a correction of this misstatement in 1896 ("Advancement of Medicine by Research," p. 43). In spite of this, the New England Antivivisection Society in 1909, *thirteen years* after this public correction, was still distributing this lawyer's statement.

But in the "Nine Circles" (second edition, carefully revised by Dr. Berdoo and the committee) these experiments are alluded to as "experiments on the spinal cord"! [Italics mine.] Yet Bowditch did no operation upon the spinal cord. Miss Cobbe, not being an anatomist, might be pardoned for confusing the thigh and the spine of the cat, but surely Dr. Berdoo ought to have seen to it that "sciatic nerve" and "spinal cord" were not used as interchangeable terms.

Many years ago, after amputating a leg near the hip, I tried to see how long electrical stimulation of the sciatic nerve would cause the muscles of the amputated leg to contract. After four

hours, during all of which time the muscles continued to react, I had to stop as I could give no more time to the experiment. According to the canons of antivivisection as voiced above, I should have continued to etherize the patient whose leg had been amputated, for he, just as much as Bowditch's cat, could feel "agony beyond which science is unable to go."

Let me give only two other surprising statements. In the *Journal of Zoöphyly* for January, 1910, is reprinted an article by Dr. Hadwen, of London. In this he criticises my reference (*Harper's Magazine*, April, 1909) to "an astringent named 'adrenalin.'" I had shown how valuable adrenalin had been in saving human life in certain surgical conditions, and also described the resuscitation, by means of adrenalin and salt solution, of a dog which had been "dead" for fifteen minutes. Dr. Hadwen concludes his paragraph thus: "But it does seem a pity that these new world vivisectioners will not be able to perform the resurrection miracle without first killing somebody to get at his kidneys." The presumable object of "getting at his kidneys" would be in order to make adrenalin from them. Now, adrenalin is *not made from the kidneys at all*, least of all from human kidneys, but from the adrenal glands of animals.

In the same article he vaunts the use of salt solution instead of the direct transfusion of blood, and rightly says he has "seen the most marvelous effects follow the injection of an ordinary saline solution into the venous system in cases of loss of blood." But he seems to be ignorant of the fact that this very saline transfusion was begun and perfected by experiments on animals. I commend to him Schwarz's essay (Halle, 1881) with its twenty-four experiments on rabbits and dogs, and Eberius' essay (Halle, 1883) with its ten experiments on rabbits and the record of eleven cases in which Schwarz's method had already been used in man. These essays were practically the beginning of our knowledge of the advantages of the use of salt solution over the old dangerous methods of transfusion of blood.

The antivivisectionists deny the truths of Bacteriology. Yet we practical physicians, surgeons and obstetricians *know* by daily experience that Pasteur's and Lister's researches are the basis of most of our modern progress. Are Hadwen, Harrigan, Snow and their colleagues right and have all medical colleges all over the world in establishing chairs of Bacteriology and all medical men in believing bacteriological diagnosis of such importance and in basing upon the germ theory their antiseptic treatment which has so revolutionized modern surgery been wholly wrong? The germ theory is as well established as the doctrine of the circulation of the blood.

II. My second reason for believing that antivivisection injures character is that, by putting a greater value on the well-being and the lives of monkeys, guinea pigs, rabbits, dogs, cats, mice and frogs than on the lives of human beings, it fosters a spirit of cruelty to human beings.

Is it not a cruel passion which will lead men and women to write such letters and to print such epithets as I have quoted? Is it a right thing to mis-state the facts of operations, and after the falsity of the charge has been proved, still continue for years to hold up men with human feelings and sensitive to abuse before the community as vile monsters of cruelty? Nay, more than this, is it not an extraordinary thing that those who so vehemently denounce human vivisection are even among its advocates?

When I was professor of surgery in the Woman's Medical College of Pennsylvania I took as the topic of my address at one of the commencements, "Our Recent Debts to Vivisection." Mrs. Caroline Earle White published "An Answer to Dr. Keen's Address Entitled, Our Recent Debts to Vivisection." At the bottom of page 4 I find the following: "I take issue with Dr. Keen in the second place where he says, 'These experiments cannot, nay, must not, be tested first upon man.' I assert, on the contrary, that *in the majority of cases they must be tested first upon man* [Italics my own] or not tested at all, because no important deductions can ever be drawn with any degree of certainty from experiments upon animals, since in some inexplicable way their construction is so different from that of man."

The statements in the latter portion of the concluding sentence will much amuse anatomists, physiologists and biologists, or, in fact, any one who really knows anything about science. With minor modifications, man and the lower animals are alike in almost all particulars, both in structure and function, in health and disease.

The extraordinary fact is that Mrs. White asserts that experiments must be tested first upon men or not tested at all. That is to say, we must either experiment upon human beings or else continue in exactly the same old rut as before and never make any progress, for every departure from prior practice, however slight, is an "experiment."

If this basic doctrine of antivivisection had held good for the last fifty years Lister would not have been able, after carefully testing his antiseptic method upon animals and having found it successful, then, and not before then, to try it upon man.<sup>2</sup> By this means he became, as the *British Medical Journal* has just called him, "The Maker of Modern Surgery."

But on page 10 of Mrs. White's "Answer" is found the following flat-footed advocacy of human vivisection: "Dr. Keen mentions that in India alone 20,000 human beings die annually from snake bites and as yet no antidote has been discovered. How can we search intelligently for an antidote, he says, until we know accurately the effects of the poison. I should reply that in order to find out the effects of the poison and to search also for an antidote, the best plan would be for the experimenters to go to India where they could find as large a field for investigation as

they require in the poor victims themselves. *Here is an opportunity such as is not often offered for experimenting upon human beings*, since as they would invariably die from the snake bites, *there can be no objection to trying upon them every variety of antidote that can be discovered*. Nothing seems to me less defensible than these experiments on the poison of snake bites upon animals since it is the one case in which they could be observed with so much *satisfaction and certainty upon man*!" [Italics my own.]

Such a proposal is as absurd as it is cruel. Even if the experimenter could afford sufficient time and money to go to India for months or rather for years, how could he arrange to be present when such unexpected accidents occurred? How could he have at hand in the jungle the ether, chemicals, assistants, tables, tents, food and drink, and the necessary yet intricate and delicate instruments? And even if he had all of these, how could he work with the calmness and the orderly deliberation of the laboratory when a fellow human being's life was ebbing away and every minute counted in such a swift poison? The proposal is cruel and revolting and would never be accepted by any investigator.

But Mrs. White is not the only one who is guilty of making such a proposal. Many antivivisection leaflets and pamphlets express the wish that the vivisectors should be vivisected. In a pamphlet entitled "Vivisection in America," by Frances Power Cobbe and Benjamin Bryan, and freely distributed in the United States, I find on page 15 the following in a letter from a then Senator of the United States: "It would be much better to dissect men alive occasionally for the general welfare because the attendant phenomena and demonstration of the victims being of our own particular form of animal would be far more valuable than the result of our observation upon the physical structure illustrated in the agonies unto death of the helpless creatures around us." The English is as distressing as the proposal is astounding.

Let us give one more illustration of the effect of antivivisection in encouraging cruelty.

To-day, the plague, cholera and yellow fever no longer terrify Europe or America. What is the reason for this? Primarily and chiefly the discovery of the germs of cholera and of the plague by bacteriological methods, which in turn are very largely the result of experiment upon animals, and of the means of the transmission of yellow fever, though as yet not of its cause. In the latter case experiments upon animals were out of the question because it is impossible to transmit yellow fever to animals. They are not susceptible to the poison. So a number of noble medical men and others volunteered to have experiments tried upon them. The very first experiments were tried upon medical men. These men slept in a stifling atmosphere for twenty nights in the beds in which yellow fever patients had died, and in their very clothes, clothes soiled with their black vomit, urine and feces; tried to inoculate themselves by putting

<sup>2</sup> See "Modern Antiseptic Surgery and the Role of Experiment in its Discovery and Development." American Medical Association, Chicago.

some of the black vomit into their eyes, or by hypodermic injections, etc., but all in vain. By none of these methods were they able to inoculate themselves with the fever. One step more was requisite, — to learn whether a well man bitten by an infected mosquito, but having been exposed to no other possible source of infection, would contract the disease. Dr. Carroll, of the Army, was the first to offer himself, and nearly lost his life. Others followed. Several lost their lives, among them Dr. Lazear, at the beginning of a most promising career. His tablet in the Johns Hopkins Hospital, in the fine words written by President Eliot records that "With more than the courage and the devotion of the soldier, he risked and lost his life to show how a fearful pestilence is communicated and how its ravages may be prevented."

Contrast with this a cruel letter in the New York *Herald* of Aug. 2, 1909, written by a woman: "Science is based upon such firm foundation, indeed, that it can at a moment's notice be tumbled down and become a wrecked mass by a mosquito! Not only this, but these life-long vivisectioners could not even prolong their own lives. Undone by a mosquito! I shall always have unbounded admiration for that clever insect."

This self-sacrifice for humanity has made us masters the world over of yellow fever, has made possible the Panama Canal, has saved many thousands of human lives and millions of dollars in our own Southern states alone, and yet a woman can feel "unbounded admiration for the clever insect" which slew these heroes and had devastated cities and countries for centuries! Does not such antivivisection zeal "hurt character"?

Two men are especially obnoxious to the antivivisectionists: Pasteur, whose demonstration of the cause of that form of infection known as puerperal or childbed fever alone would have made his name immortal; and Lister, whose application and extension of the principles laid down by Pasteur have revolutionized all modern surgery.

I need not argue the case for Pasteur, Lister and modern antiseptic surgery. Excepting the antivivisectionists, every intelligent man and woman the world over *knows* that modern surgery has been made safe by their researches. Let me give a single instance.

In the charming *Life of Pasteur* by René Valéry Radot, it is stated (II, p. 16) that, hoping to overcome the almost invariably fatal results of ovariectomy in the hospitals, the authorities of Paris "hired an isolated house in the Avenue de Meudon, a salubrious spot near Paris. In 1863 ten women in succession were sent to that house. The neighbors watched those ten patients entering the house, and a short time afterward their ten coffins being taken away!" When I was the assistant to the late Dr. Washington L. Atlee in the late 60's, two patients out of three upon whom he, the foremost ovariectomist in America, operated died.

To-day, thanks to Pasteur and Lister and modern surgery, based upon experiment upon

animals more than upon any other foundation, not more than two or three in one hundred die after ovariectomy. Yet, if the antivivisectionists had prevailed, the horrible mortality of the earlier days and even the tragedy of the ten women and the ten coffins would still exist. Is not this cruelty?

Let me take another illustration of a similar cruelty, a form especially interesting to women. In the *Journal of the American Medical Association* for April 22, 1911, Prof. J. Whittridge Williams, professor of obstetrics in the Johns Hopkins University, states the following facts: In 1866 Lefort showed that of 888,312 obstetrical cases in the hospitals of France up to 1864, 30,394 women had died of puerperal fever; that is to say, 3.5%, or about every twenty-seventh mother. From 1860 to 1864 the mortality in the Maternité of Paris had risen nearly fourfold, to 12.4%. In December, 1864, it rose to 57%, that is to say, *more than one half* of the women who bore children in that month died of childbed fever! In Prussia alone, in the sixty years from 1815 to 1875, Boehr showed that 363,624 women had died of the same fever and estimated that every thirtieth prospective mother was doomed to death from that cause. In the United States, Hodge, of Philadelphia, showed that in the Pennsylvania Hospital from 1803-1833 there had been a mortality of 5.6%, i. e., every eighteenth mother was doomed. Lusk reported an epidemic in 1872 with 18%, that is, almost every fifth mother perished from the same fever!

So late as March, 1879, only thirty-three years ago, at the Paris Academy of Medicine, when the leading men in a debate on childbed fever were at a loss to account for it, Pasteur drew on the blackboard what we now know as the *streptococcus* and declared this little vegetable organism to be its cause. Our own Oliver Wendell Holmes in 1843 was the first who declared on clinical grounds that the doctors and the nurses carried the contamination, but how and why he could not know, for Bacteriology did not then exist. He was followed by Semmelweis, of Vienna, who, in 1861, still further reinforced the reasoning of Holmes, and for his pains was tabooed by his professional colleagues and ended his life in a madhouse.

The result of Pasteur's researches and the practical application of Lister's antiseptic method to obstetrics as well as to surgery have borne the most astounding and gratifying fruit. For instance, in 1909 Markoe reported in the New York Lying-In Hospital in 60,000 births a maternal mortality of only  $\frac{1}{100}$  of 1% and Pinard in 1909 in 45,633 births recorded a mortality of only  $\frac{1}{100}$  of 1%, while in 1907 Mermann had been able to report a mortality of only  $\frac{1}{100}$  of 1% in 8,700 patients! In other words, these reports show in round numbers that, taking in the two extremes, the deaths from childbed fever fell from the extraordinary rate of 57 in 100 mothers, or the former usual rate of five or six in every hundred mothers, to one mother in 1,250.

If for fifty years past the antivivisectionists had had their way, all these marvelous results in obstetrics would have been prevented and women would still be dying by the hundred and the thousand from puerperal fever, — an entirely preventable disease. Would it not have been the height of cruelty to stop these experiments? But according to the *Journal of Zoöphily* such wonderful life-saving experiments should be prohibited, “no matter how great the anticipated benefit.”

In surgery, erysipelas, blood poisoning, lockjaw, hospital gangrene, etc., would still be killing our patients right and left; weeks of suffering, to say nothing of danger, would confront every patient operated upon; the modern surgery of the head, of every organ in the abdomen and pelvis, of tumors and of cancer, amputations and many other operations, instead of being almost painless and so safe as they are to-day, would be the cause of prolonged illness, pain and death, in fact, most of them would be deemed entirely impossible of performance, — and they *were* impossible before Pasteur and Lister, — and animals themselves would still be suffering as of old from animal maladies whose causes are now known and whose ravages have been enormously diminished.

Call you not the desire to arrest such experiments cruelty to man and animals alike?

In a speech in the House of Commons, April 4, 1883, Sir Lyon Playfair, the Deputy Speaker, said:

“For myself, though formerly a professor of chemistry in the greatest medical school of this country [Edinburgh], I am only responsible for the death of two rabbits by poison, and I ask the attention of the House to the case as a strong justification for experiments on animals, and yet I should have been treated as a criminal under the present act [the British Vivisection Law] had it then existed.

“Sir James Simpson, who introduced chloroform, . . . was then alive and in constant quest of new anesthetics. He came to my laboratory one day to see if I had any new substances likely to suit his purpose. I showed him a liquid which had just been discovered by one of my assistants, and Sir James, who was bold to rashness in experimenting on himself, desired immediately to inhale it in my private room. I refused to give him any of the liquid unless it was first tried upon rabbits. Two rabbits were accordingly made to inhale it; they quickly passed into anesthesia and apparently as quickly recovered, but from an after action of the poison they both died a few hours afterwards. Now was not this a justifiable experiment upon animals? Was not the sacrifice of two rabbits worth saving the life of the most distinguished physician of his time?”

As this experiment was not for the good of the two rabbits, but, in fact, killed them, in the eye of present-day antivivisectionists it would be wrong, and, if they had their way, illegal and punishable, and Simpson would have lost his life. Would not this be cruelty?

Let me state briefly two of the most recent discoveries in medicine and surgery:

1. Vaccination against typhoid fever. Starting from Pasteur's researches on animal diseases and continued by various observers and especially in the last few years by Sir Almroth Wright, of London, there has been developed chiefly by experiments upon animals a “vaccine” to *prevent* typhoid fever. When by such experiments the method was found to be sufficiently safe, it was tried on man.

In the Boer War, and among the German troops in their African colonies, tentative trials of its value were made. Now it has been tried in the United States Army on a larger scale and with more astonishingly good results than in any previous trials.

During the Spanish War there were 20,738 cases of typhoid and 1,580 deaths; nearly *one fifth of the entire army* had the disease. It caused over 86% of the entire mortality of that war! In some regiments as many as 400 men out of 1,300 fell ill with it. How this would handicap an army in the field — to say nothing of deaths — is very evident.

Lately in our army on the Mexican border, for months under war conditions, except as to actual hostilities, *there has not been a single soldier ill with typhoid*. This is due partly to better sanitation, which in turn is due largely to bacteriology, but chiefly by reason of wholesale antityphoid vaccination. This is evident from the fact that during the year June 30, 1908, to 1909, when this vaccination was purely voluntary and the army was not in the field, proportionally *sixteen times* as many unvaccinated soldiers fell ill with the disease as compared with the vaccinated. On the Mexican border there has been only one single case of typhoid, not in a soldier, but a teamster who had not been vaccinated. So evident are the benefits of this preventive inoculation that Dr. Neff, the Director of Health of Philadelphia, has issued a circular proposing its municipal use, and also to prevent typhoid in our many summer resorts. In many large hospitals it is extensively used to protect the doctors and nurses from catching the fever.

(To be continued.)

## Original Articles.

DR. SAMUEL SHELDON FITCH, A NEW ENGLAND CONSUMPTION SPECIALIST OF SEVENTY-FIVE YEARS AGO.

BY HENRY FARNUM STOLL, M.D.,

Assistant Physician to the Hartford Hospital, Hartford, Conn.

In the early part of the last century, when it was generally believed that consumption was one of God's scourges from which it was useless to look for recovery, Samuel Sheldon Fitch studied medicine at the University of Pennsylvania. His father, Dr. Chauncey Fitch, and his grandfather, Dr. Ebenezer Fitch, were practicing



physicians in Connecticut, and his uncle, Ebenezer Fitch, was president of Williams College.

After leaving the University of Pennsylvania he traveled in Europe for a time, and it appears that he was especially interested in tuberculosis. He became convinced that this disease might be prevented and even cured, and for several years he traveled throughout New England lecturing on its curability. These lectures were published in book form in 1847, and they contain so much excellent advice that it seems worth while to review them.

He undoubtedly was considered a quack, for he taught that "consumption was the most curable of diseases" at a time when Nathaniel Chapman, professor of the theory and practice of medicine at the University of Pennsylvania, stated that he had seen no case cured in fifty years' practice, and added that whomsoever claimed to cure it was a charlatan.

Dr. Fitch would hardly be called "ethical" to-day, for he not only sold an abdominal supporter, an inhaling tube and shoulder braces to his patients, but he even treated them by mail! Yet one cannot help but wonder whether he did not really know as much about his patients when he received the answers to his questions—over one hundred in number—as some of us do to-day, after the few perfunctory questions asked during a hurried office consultation.

Here are some of the questions he propounded: "Delicate or good constitution? Any of the family died of asthma, scrofula, heart disease or consumption? Any cough? How long? Do you cough up anything? How much? What kind? When cough most? When raise most? Ever raise blood? How many times? How much? On which side lay best, if either? Have you any chills, fever or night sweats, short breathing or asthma? Any dyspepsia, sour stomach or distress, or pressure at the stomach after eating? Appetite good, bad or capricious? Bowels regular, costive or diarrhea? Take much medicine or mercury? Can you read aloud, or talk long, or walk actively, or do your work, without unusual fatigue? In indigent or easy circumstances? Have you good teeth?"

While he seems to have thought consumption was inherited, he nevertheless says that it is a "child of civilization, resulting chiefly from loss of symmetry and from effeminacy induced by over-luxurious living, dissipation, too little exercise and debilitating diseases and occupations," and he considered it unwise for a consumptive mother to nurse her child. Dr. Fitch was a strong believer in prophylaxis, urging that the children of consumptive parents spend much of their time out-of-doors and eat plain, good food. Even at that early day he saw the baneful effects of the badly ventilated schoolroom, as he advised that "thin, delicate children should not go to school too early nor be too long confined, and that their desks should not be too low."

How one instinctively straightens up, as he reads his directions for walking. "The chest should be proudly erect, and on going into the

cold air, instead of shrinking from it, draw in a long breath of pure, cold air. Do this one hundred times a day; if you have any symptoms of weak lungs, it will cure you."

He had a happy way of saying things that must have added to his success. "Light and dryness are great friends to the lungs; darkness and dampness are their enemies." Again we read, "To the consumptive, the air is a vast medicine. It is far more valuable than all other medicines. The cold, fresh air is more nutritious to the lungs and system than warm air"; and again, "Cold air is a good tonic and restorative to the system."

Just think what bitter opposition such advice must have caused, for at that time the consumptive was kept in a room heated by a stove, with every breath of air carefully excluded, and he was blistered, bled, purged and starved. Fitch believed that such methods were "calculated to make consumption, not to cure it." He tells of one man who was bled nineteen times in eighteen days, and mentions an instance where tartar emetic, applied to the sternum, ate through the bone.

He deplored that women in this country took so little exercise. "Without exercise in the open air no rule for health could possibly be complete. It is impossible to have vigorous health, or preserve it long, without daily exercise in the open air." Dr. Fitch advocated walking in pleasant places and with congenial companions, "where the eye is refreshed and the mind delighted." How truly he speaks when he says, "Hope unmixed with fear is a great antagonist to the spread of consumption."

Observing the frequency with which enteroptosis and tuberculosis co-existed, he devised an abdominal supporter which must have been an excellent one. It is described in part as follows: "A neat, well-stuffed pad that rests against or rather under the abdomen just above the cross bone in front. This pad is so formed and so presses that it lifts the whole abdomen and bowels upward and does not press in such a manner as to lay flat on the bowels and so press a part of them downward into the basket of the hips." It weighed but 4 oz. and was worn "over the linen."

He also advocated (and sold) an inhalation tube similar to the one used by Dr. Ramadge, of England. This tube was so constructed that one inhaled through a large opening, while exhaling through a much smaller one, thus obstructing expiration. Dr. Fitch also sold certain "remedies" suitable to the particular case.

It is interesting to note that he had the same trials we meet with to-day. Among them he mentions the difficulty of winning the confidence of the patient's friends, and he tells us that a highly respectable clergyman pronounced it blasphemous to say that consumption was curable, because God himself had made it incurable!

Cures were attained, we are told, in eight out of every ten cases, providing the case was not too far advanced and "faithfully, judiciously and perseveringly employed the remedies." It took him from six months to three years to effect a

radical cure, and he states that he was consulted by five thousand patients in three years.

A number of letters are included in this very interesting book, which contains, in addition to the lectures on consumption, one for "ladies only" and another for "gentlemen only."

In one letter, an introduction to Professor Kingsley, of Yale, from Mr. R. R. Hinman, Secretary of the state of Connecticut, he is referred to as a "gentleman of strict honor, skillful in his profession, and in every way worthy of the patronage of the public." Several of the letters of introduction are from physicians who thought highly of his ability.

His testimonials show that his patients came from all over the country, but most of them were from New England.

While his patients were chiefly among the tuberculous, it appears that by faithfully using his abdominal supporter, John B. Whiton, of Bristol, was cured of the "most distressing piles," and another of Bristol's "most enterprising men" was cured of severe pains in his legs by the same means.

There were certain diseases, we read, which retarded or even prevented consumption, notably heart disease and asthma. Enlarged tonsils were "sentinels," protecting the lungs; they also tended to enlarge the chest by obstructing the expiration.

He tells us of several cases where consumption followed as the result of the removal of tonsils, and if only one was removed, the lung on that side was the one attacked. While a common cold might sometimes cure consumption, it more often caused it, and was not a thing to be treated lightly.

Dr. Fitch confesses that one great secret for his success lay in the fact that he "doctored" all the diseases the person happened to have, citing the case of a woman he treated not only for "true consumption," but also for "very bad dyspepsia, chronic diarrhea, bad piles, falling of the womb, whites very bad, partial stoppage, scalding urine, lame, weak back, etc." He realized fully that "chasing the cure" was a long, hard grind, requiring, as he expressed it, "a great deal of effort from the patient, the price of his or her health being constant vigilance."

It was a source of surprise to him, even as it is to us to-day, "to see people restored to health return to exactly the same habits that produced it."

No better advice was ever given than the following, and did every physician throughout the land repeat it verbatim to each of his tuberculous patients, Samuel Sheldon Fitch had not lived in vain.

"Remember, consumptives, that travel wherever you please, you cannot travel out of your own body. The disease originates in your own body by your own acts. Your cure will depend upon yourself. . . . Do not fancy there is some far-off favored spot which, if you reach it, would be found exempt from consumption! No such place exists where civilized man resides. Do not

expend all your strength and money to reach such a spot, that, when attained, only fills you with the cruelest mockery and disappointment."

### CEREBROSPINAL MENINGITIS CAUSED BY ACID IN THE BLOOD.

BY DAVID G. HALL, M.D., DALLAS, TEX.

DURING the last few months we have had two epidemics in Dallas, — cerebrospinal meningitis and rheumatism, — and it has occurred to me there might be some relationship between the two. Comparing the symptoms of the two diseases side by side, we find they both predominate during cold, damp weather; both come on suddenly, and are often ushered in with a chill, followed by fever; in both the synovial membranes are attacked, and the urine is scanty and very high colored; sometimes, although rarely, during an attack of articular rheumatism the meninges of the brain become involved, and the patient rapidly succumbs to the disease. In rheumatism, it is a well-known fact, the blood is over-charged with acid, and it is an easy matter to detect the acidity in the saliva and perspiration. It, therefore, occurred to me, while comparing the two diseases, to test the saliva in meningitis; but I had no sooner decided to do so than there was a complete falling off of cases coming under my observation. Through the courtesy of Dr. J. W. Anderson I was able to examine a well-marked case, which subsequently died on the fourth day, and I found the saliva strongly acid. This, of course, would indicate the blood was overcharged with acid. I then saw Dr. Nash, at the city hospital, who kindly permitted me to examine the patients in one of the wards. There were eight patients in all, and six out of the eight showed marked acid saliva. The other two, whose saliva was alkaline, had practically recovered. One was a man who was up and dressed, and the other a boy about ten years old, who was still in bed, but who, according to the nurse, was considered nearly well. Thus seven out of nine cases showed acid saliva. It is only reasonable to suppose, if the blood in meningitis is over-charged with acid, the best way to ward off the disease is to keep it alkaline, as in its normal healthy condition. Let us now stop to consider how the blood may become acid. The acids of the body are excreted, almost exclusively, by the kidneys and the skin through the perspiration. In winter the excretions of the skin are checked, and practically all of the work is thrown on the kidneys. If, then, that excretion is, in any way, suppressed, the acid must accumulate in the system. Comparatively few people in Dallas take ice during the winter months, and as the hydrant water is none too inviting, the amount of water drunk by the average person is far below what it should be. Then, again, the Southern people are usually excessively fond of sweet things, especially sugar and syrup. With butter at forty-five cents a pound, it is not to be wondered that most families

are forced to eat syrup in greater quantities than formerly. Every one knows that an overabundance of sugar or syrup taken into the system and a diminution in the amount of water, predisposes that person to rheumatism, caused by an excess of acid in the blood. If, now, the blood is found to be also over-charged with acid in meningitis, it is only reasonable to suppose this acid may be the principal factor in developing the disease, especially after exposure to severe wet or cold. I do not say the germ of meningitis and rheumatism is one and the same thing, because I do not know. That must be left to the scientist to determine. No physician who graduated more than thirty years ago is as competent to discuss the germ theory of disease as a student of the present day. All I can say is the germ of each disease thrives in blood which contains an abnormal amount of acid. Authorities tell us cerebrospinal meningitis is caused by a germ known as the meningococcus. This organism is found in the blood and in the cerebrospinal exudate of persons suffering from this disease, and also in the nasopharynx of apparently healthy persons. These latter are called "meningococcus carriers," and are said to greatly outnumber the persons suffering from meningitis. If the meningococcus thrives in blood which is highly charged with acid, and the same organism is also found in the excretions of a healthy person, is it not logical to suppose these latter owe their immunity from the disease to the fact their blood is alkaline? It is well known, after a person has once had inflammatory rheumatism, and has fully recovered, if the blood again becomes charged with acid, after many months or years, there may be a relapse of the disease. Is it not fair to suppose the relapse in meningitis is due to the same cause? The fact that the blood in meningitis contains an excess of acid does not in the least prove the disease may not be infectious, but it seems hardly probable a person could become infected unless his blood were acid, and the germ could be able to find a suitable feeding ground. Again, several cases occurring in the same family cannot be positive proof that one person contracted the disease from the other. All the persons in the family may have been subjected to the same habits in regard to food and drink, and to the same exposures to heat and cold. If the mother drinks but little water, the children might follow suit, and if there is always syrup on the table, all very likely ate it. Some one may ask the question, How does it happen young infants have meningitis? They do not use syrup. No, but they often drink condensed milk, which is nearly half sugar. I have often wondered how a young child can assimilate the immense amount of sugar it takes during the twenty-four hours when fed on condensed milk. The only explanation I have been able to give is that the milk is given with such a large amount of water, the kidneys are able to immediately take on an increased activity and carry out of the system any acids that may have formed during digestion. What the effect might have been if the milk had been

given in a strongly concentrated form, I will not attempt to say, but I presume it would have been fatal to the child. It is not to be wondered at, the negroes are more subject to meningitis than the whites. Almost none of them take ice, and they drink but very little water during the winter. They are excessively fond of sugar and syrup. A cup of hot black coffee three times a day, highly flavored with sugar, is about all they drink in cold weather. What, then, should be a physician's advice to his patients to guard them against contracting meningitis?

First, Drink large quantities of good water.

Second, Eat no sugar or syrup.

Third, If the urine is highly colored, take some alkaline diuretic, such as one-half teaspoonful of sodium bicarbonate morning and night, dissolved in a glass of water. I have but one other word, and that is in regard to the treatment of meningitis. It seems to me it would be advisable to prescribe in addition to the "serum inoculations," the free use of some mild alkaline drink, to bring the blood back to its normal condition as soon as possible.

#### REMARKS ON A SERIES OF ONE HUNDRED CASES OF VAGINAL HYSTERECTOMY FOR UTERINE FIBROMATA.

BY CHARLES GREENE CUMSTON, M.D., BOSTON.

In presenting the following remarks it is far from the writer's intention to have it assumed that he is a champion of the vaginal route versus the abdominal route, for his purpose is merely to show that vaginal hysterectomy is preferable in certain cases to the abdominal route. It would no more occur to me to remove fibromatous uteri exclusively by the vagina, any more than I would resort entirely to perineal prostatectomy. In both prostatic hypertrophy and uterine fibroids, each case is a matter of selection, and both the lower and upper routes will be chosen according to the pathologic conditions presented in each case.

It is also my opinion that pus cases are never to be treated by a vaginal hysterectomy; that when the uterus and adnexa require removal on account of severe inflammatory lesions, the abdominal route is the only proper one to follow. In pus cases when very far advanced, where one or both tubes contains a large quantity of pus and the patient is in a highly septic condition, it is clear that the only proper operation is then to do a posterior colpotomy, followed by careful and complete drainage, and, after the patient's general health has become improved, abdominal section may be resorted to in order to remove the diseased uterus and adnexa.

Vaginal hysterectomy, to my mind, in cases of uterine carcinoma, is only indicated in the very early stages when the malignant growth is beginning to show itself in the cervix or when one is dealing with carcinoma of the fundus which has only manifested itself symptomatically for a short time. In these cases the pelvic and

pre-aortic lymph-nodes will not as yet have become involved and, therefore, a carefully performed vaginal hysterectomy will probably give as long lease of life as if done by the abdominal route, and the former operation has certainly the advantage inasmuch as there is less danger of infecting the peritoneum with the cancer cells.

Having made these preliminary remarks I will now enter into the subject proper of this paper. In uterine myomata the principal factor in the selection of the route to be resorted to seems to be the size of the growth and the roominess of the vaginal canal. When the uterus is larger than a fetal head the abdominal route is to be selected, for otherwise morcellation of the growth must be resorted to when vaginal hysterectomy is undertaken, an operative procedure which is always to be avoided when possible. If, for certain reasons, vaginal hysterectomy is to be preferred and the birth canal is narrow, one may resort to a deep lateral vaginal incision on either side of the rectum. After the hysterectomy has been done, these incisions are closed with sutures, and apparently do not complicate the operative results.

Post-operative hemorrhages from the small arteries of the vagina have been occasionally reported, but personally I have never experienced this complication.

To those familiar with both the abdominal and vaginal route it cannot be denied that the shock is much greater when the former is used, and that even if the amount of blood lost during a vaginal hysterectomy is considerable, the patients are never in such a collapsed condition as when this occurs through the abdominal route.

Perfect freedom in mobility of the uterine growth and uterus is absolutely essential when the vaginal route is to be resorted to. It is much better if the uterus can be pushed down into the pelvis, but this is not an absolute necessity. No matter how movable a fibroid tumor may appear, there is always a possibility that adhesions are present between it and the intestinal loops, and during removal one should always bear this possibility in mind as overlooking it might lead to disastrous results. Careful handling of the broad ligaments is essential, because if brutally manipulated they may be torn and give rise to very unfortunate hemorrhage, greatly interfering with the proper completion of the operation.

I have always used the clamp method, as I never found that ligatures presented any advantage, but only one pair of long clamps is used on each broad ligament. These clamps were especially constructed for me by Tiemann & Co., of New York, the only modification which I have made being the addition of two small pins placed in the center at each end of the blade. When the clamps are locked the pins bite into the broad ligament and prevent the instrument from slipping. I have used these clamps for some ten years now and have never had any mishap. It might be objected that the pins would render the removal difficult, but this has never been the case. All that is necessary is

to tease the clamp, giving it a little seesaw motion, after which it can be withdrawn with ease.

Certain operators have considered the use of clamps dangerous, inasmuch as by pressure they may produce sloughing of the vulva or even intestinal gangrene, but to those operators in whose practice these complications have arisen, it must be evident to all that it was due to improper packing of the wound. Care should be taken to push the strips of iodoform gauze into the vaginal vault and peritoneal cavity far beyond the ends of the clamps and thus the intestine is walled off and protected. Strips of gauze should also be placed between the lateral and posterior vaginal walls and the clamps, and if this is properly done no fear need be entertained as to any trouble resulting from pressure of the clamps.

It is very evident that there are cases where it is quite an indifferent matter whether vaginal or abdominal hysterectomy is done, but taking all things into consideration, my rule for the past ten years has been that only small and freely movable fibromata that can be forced down into the pelvis are suitable for the vaginal route. But it should be recalled that free mobility may only be apparent and the impossibility of the removal of the neoplasm per vaginam is not discovered until the operation is well advanced. Should this occur, nothing is lost by commencing through the vagina, if the surgeon realizes soon enough the inadvisability of carrying out the operation, because the abdominal removal of the lesion is simplified from the fact that the bladder and rectum have been freed from the uterus.

I believe that all who have had experience with both abdominal and vaginal hysterectomy will admit that there is less shock in the latter operation and that even patients who have lost much blood previously recover with remarkable rapidity and that many ultimate complications met with after abdominal hysterectomy are far more infrequent following the vaginal operation. The vaginal route is absolutely to be discarded in cases of narrow vaginae, and in elderly virgins. If attempted under these conditions the small operative space, requiring a protracted interference and a consequently long narcosis, offsets all the other advantages of the operation. Then, again, large incisions into the vaginal vault and peritoneum must be made and the resulting cicatrix leads to adhesions which ultimately interfere with the vesical and rectal functions.

From Jan. 1, 1900, to Jan. 1, 1911, I have performed vaginal hysterectomy for fibroids on one hundred patients, selected according to the above-mentioned rules.

The technic is simple. The cervix is exposed with Segond's retractors; it is then seized anteriorly and posteriorly with French hysterectomy forceps and a circular incision is made low down on the cervix. The bladder is then peeled off and the peritoneum opened; next the rectum is separated and the posterior peritoneal cul-de-sac opened. Hemisection of the uterus is next ac-

complished and the organ with the neoplasm delivered outside of the vulva. One pair of hysterectomy clamps are placed on each broad ligament, all this being accomplished in almost less time than it takes to read the description if the case is a simple one, without intra-abdominal adhesions. All that there remains to do is to pack the wound with iodoform gauze, being careful to carry the gauze *beyond* the end of the clamps. The latter are next packed around with iodoform gauze in order to prevent pressure necrosis of the perineum and vaginal mucosa. As is seen, I still adhere to the clamp method, as I am convinced that it is safer than ligaturing the broad ligaments and closing up the vaginal vault.

By using the writer's clamps only one is applied to each broad ligament and, therefore, the patient is not made uncomfortable by their weight. The clamps are removed forty-eight hours later and should be first unlocked and by their elasticity allowed to separate from the tissues included in their grasp and then, *a few minutes later*, by a side-to-side motion, the instrument is carefully and easily withdrawn.

In young women, if the adnexa are healthy, they are left; otherwise they are removed with the uterus.

The preparatory treatment is of some importance. If there has been enough hemorrhage previous to the operation to weaken the patient, or if she is flowing at the time of the interference, the exhibition of 1 gm. of calcium lactate four or five times daily for four or five days previous to the operation has appeared to me to exert a beneficial effect.

On the morning before the operation 30 gm. of castor oil are given and in the afternoon, after the laxative effect has been obtained, an enema of soap and glycerine is given moderately high. The pubis and vulva are carefully cleaned of hair, for which purpose I prefer calcium sulphide paste, as it leaves a perfectly clean surface and avoids the unpleasant excoriations produced by a razor in unskillful hands. The vagina is cleansed at the time of operation. First, a careful soap and water scrub, then a long irrigation with sterile water; after this a minute washout with alcohol and a final irrigation with a 1:2000 solution of mercury cyanide.

For post-operative pain one or two subcutaneous injections of  $\frac{1}{4}$  gr. morphia, or a suppository of codein sulph., gr.  $1\frac{1}{2}$ , repeated every six hours, are quite sufficient in most cases.

For post-operative ischuria I have found that an intravesical injection, through a rubber male catheter, of 20 ccm. sterile boroglycerine into the full bladder will usually overcome this slight complication.

The iodoform packing is removed in one week, after which a vaginal irrigation night and morning with a 1:2000 mercury cyanide solution is given until all discharge has ceased. This generally lasts for about one week or ten days at most, after which the patient may resume her ordinary life. In an ordinary case the patient may be allowed to get out of bed on the tenth day and

return to her home in from fourteen to sixteen days after the operation.

The indication for operation in the majority of my cases was severe hemorrhage. A few patients complained of severe abdominal pain or cardiac palpitation. Retention of urine or marked constipation almost amounting to obstruction (four cases) was present in seventeen.

The age of the patients was as follows:

Under 30 years,	1
From 31 to 40 years,	27
From 41 to 50 "	54
From 51 to 60 "	17
From 61 to 70 "	1

Incisions for enlarging the introitus and vagina were resorted to in five cases. Seventeen of the patients were nulliparous, and in three there was senile atrophy of the external genitals.

Removal of the adnexa was decided upon during the interference. If pathological changes had taken place, the ovaries, one or both, according to the case, were removed; otherwise they were left unless the patient was near to or passed the menopause.

In two cases the bladder was accidentally opened and, strange to relate, both were instances of small, very movable fibroids. Both closed without any leaking in ten days by the use of the permanent catheter.

There is usually a rise of one or two degrees in the temperature on the first two or three days following the operation, but is of no consequence and the pulse never goes up. If, however, it does not fall after the third day, it indicates some complication. Often, too, a slight rise will be noted following the removal of the gauze packing. In case the temperature remains up after the third day, the packing should be removed to ascertain the reason, and often a slight discharge of a serous nature occurs, after which the temperature drops.

Hemorrhage after removal of the clamps has never occurred, but in two patients a mild thrombophlebitis developed, once in the right and once in the left lower limb. Both patients were discharged well on the twentieth day, and as the complication appeared in one thirty-six, and in the other forty-eight hours after the operation, it is fair to assume that the origin of the trouble could be found in the anemia presented by the patients.

Fortunately, there were no deaths, although fourteen of the patients were in a very serious condition from loss of blood when operated on. In one patient there was a large retro-uterine collection of pus, but her recovery was uneventful. The uterus and fibroid in this case were very soft, and considerable difficulty was experienced during the operation on this account, as the tissue would tear easily. In a second case necrosis of the fibroid had taken place and the patient, forty-seven years of age, was operated on at short notice on account of the severe symptoms due to this pathological change.

The collected statistics of nineteen operators including myself, give total of 1,539 vaginal

hysterectomies for uterine fibromata with a mortality of 2.51%, which would seem to be low when one takes into consideration the rather desperate condition of many of the patients, and from personal experience I am inclined to believe that in properly selected cases the mortality could be even reduced to a lower percentage. It is evident that fortuitous complications will occur in vaginal hysterectomy, but what operation in surgery can be said to be devoid of danger? But in the case we are now considering, much depends on the surgical acumen of the operator. That vaginal hysterectomy has lost its great vogue I do not deny, but when undertaken for uterine fibroids according to the rules formulated at the beginning of this paper, I still maintain that it is the operation of choice in properly selected cases.

### MEDICAL GYMNASTIC TREATMENT IN CERTAIN CIRCULATORY DISTURBANCES.\*

BY GUSTAF SUNDELICUS.

WHENEVER the question is asked, "What good does medical gymnastics and massage do?" the first answer will invariably be that "it helps the circulation." And surely this answer is correct as far as it goes. It should be conclusive, then, that gymnastic treatment ought particularly to be well suited for circulatory disturbances, a fact that has been recognized for a long time among practitioners of the profession. But if the questioner presses the argument further and goes into details, if he singles out, say, two disturbances of dissimilar anatomical character, and asks just on what grounds and in what way this one and that one can be benefited by the treatment, how the treatment should differ in the two cases, and so forth, the gymnast's response is not always satisfactory. Even if he knows his business, he cannot always convince unless he is able to explain matters to the contentment of his interrogator. For example, I have sometimes had the question asked me in what way treatment should differ in a case of regurgitation of the heart valves from one of obstruction. My answer has been that practically the same procedure is advisable in both cases. Now, no medically educated person believes in a panacea, and I have known physicians to shrug their shoulders at such an answer. And yet it can be convincingly proved that such is the case, as I shall try to do here below. Even the physician treats two such cases alike, prescribes the same drugs, gives the same hygienic and dietetic advice, and why? Simply because here it is not a question of repairing the anatomical changes that create the disturbance, but solely to alleviate symptoms, to relieve the heart from overstrain and give nature a better chance to bring about compensation. The fact is this, that even though the two cases diverge anatomically, the individual symptoms of retarded circula-

tion and therewith following distress really are very much the same.

*Valvular lesions.*—As valvular lesions are such frequent types of circulatory diseases, I propose to take them for examples of circulatory disturbances and to consider their treatment with gymnastic therapeutics. For this purpose it is necessary to know something about the nature and pathologic anatomy of these lesions, which I therefore briefly will outline.

*Mitral insufficiency.*—The most frequent variety of heart disease is mitral insufficiency. The pathologic anatomy shows changes in the mitral valve, contraction and narrowing of the tongues of the valve, laceration of its segments, thickened or ruptured chordæ tendineæ or similar alterations causing a leakage of the blood back into the left auricle when the ventricle contracts to empty its contents into the aorta. The result is a back stream that meets the fresh inflow from the lungs and necessarily a hindrance that will produce a congestion in the lungs in the first place. In due time this congestion will extend backwards through the right heart and through the venous system of the whole body, clear back to the capillaries. Consequently, when the heart pumps the blood throughout the arteries, the blood will meet this obstruction in the capillaries and so the task of the heart grows heavier and more laborious. These are the principal symptoms that generally follow: In the heart itself, palpitation and hypertrophy; in the lungs, congestion with difficulty in breathing, diminished aerial exchange and secondary bronchitis; in the abdominal organs, venous stasis with enlargement of liver and spleen; in the stomach and intestines, venous hyperemia with accompanying digestive disturbances; in different parts of the body, usually beginning in the eyelids, or the ankles and so forth, edematous swellings.

*Aortic insufficiency.*—In aortic insufficiency, the heart disease next in frequency, there is a similar leakage in the aorta valves. In consequence thereof, during the diastole of the left ventricle a quantity of blood flows back meeting the fresh influx from the auricle. There follows practically the same obstruction, the same congestion in the lungs and further on in the whole venous distribution.

*Tricuspid insufficiency.*—The tricuspid insufficiency is mostly secondary or relative, that is, caused by the dilatation of the right ventricle. Therefore, we mostly find it as an addition to valvular troubles in the left heart. It is evident that a tricuspid insufficiency materially will increase the congested condition of the systemic circulation.

Now let us consider the anatomical contrast to valvular insufficiency, the stenosis where the anatomical changes consist in a hardening and thickening of the segments or a glueing together of the margins of the valves in a way preventing the valve to open to its full capacity.

*Mitral stenosis.*—In a mitral stenosis, then, when the auricle contracts to throw its blood into the ventricle, it will not have time to empty

\* Read before the Massachusetts Medical Gymnastic Society, Feb. 13, 1912.



itself through the restricted opening and, therefore, some blood will remain, opposing the inflow from the pulmonary veins. It is easy to see that this will cause a resistance that will work backwards, creating a congestion in the lungs and eventually in the whole venous system, just as previously described about valvular insufficiency.

*Aortic stenosis.* — The aortic stenosis will, in the same way, cause a quantity of blood to be left in the left ventricle that will form an obstacle to the afflux from the lungs, and the symptoms of congestion and the effect on the general circulation will be the same.

So we find that whether there exists an insufficiency or a stenosis, there will arise a series of symptoms practically alike, and before all we will find in every case the various forms of distress that are created by the general venous congestion. Therefore, it stands to reason that if we have some means of relieving the venous stasis and thereby taking the increased burden off the heart, they could be used to the same advantage in all the different forms of valvular disease. Fortunately we have such means to our disposal.

*Respiratory exercises.* — In the first place we have the *respiratory exercises*. Each inspiration enhances, as we know, the negative pressure in the thorax and at the same time increases the venous afflux. Consequently we can in this way facilitate the emptying of the large vein trunks. The breathing exercises through which a deeper inspiration can be effected are many and familiar to us all. But sometimes cases confront us where, on account of overfullness of the lungs and considerable breathing difficulty, an inspiration exercise is not well tolerated. There we should begin with expiration movements, that is, force the lungs by compression during the expiration period, best by compression with vibration, to empty themselves more completely. We will always find that by helping the patient to accomplish a deeper expiration the following inspiration will be easier and fuller. Movements like chest-lift-shaking, back- and side-tremble-shaking even a heart patient in bad shape can stand very well, though he may not tolerate inspiration exercises, and in every case the breathing will be considerably helped by them. And so will the symptoms of a secondary bronchitis, so often present in valvular diseases.

*Muscle kneadings.* — A second group of movements that will to a great extent relieve congested conditions is the muscle-kneadings. The effect of muscle-kneadings in venous congestions is too well known to require any lengthy explanation. Briefly, the pressure of the muscle causes the blood to be squeezed out of the veins in the direction towards the heart; the vessels become alternately emptied and refilled so that the venous circulation increases and the general blood pressure is lowered on account of diminished resistance. Here I want to direct attention also to the general good effect of an abdominal kneading in furthering the circulation in heart diseases. This is especially true where the congestion in the digestive apparatus is more pronounced.

But even the general effect on the circulation is proved by Levin's researches, where he found that an abdominal kneading lowers the heart action from eight to ten pulsations a minute.

*Stroking.* — Next we have to our disposal the deep stroking, the circulatory-furthering effect of which is so apparent as to make explanations superfluous. But I want to emphasize that the stroking as well as the general trend of the kneadings must go *with* the venous return-current, that is, in a direction towards the heart. It really ought not to have been necessary to point out that, if I had not once or twice heard the view expressed that in order to relieve the heart the treatment should be directed away from the heart. The absurdity of such an opinion is obvious. We must remember that in a typical valve trouble, the flow in the arteries is always free and unimpeded. The congestion begins in the capillaries and extends through the venous system. Consequently, if we undertook to conduct the treatment centrifugally, we would not help the arterial flow, but we would increase the hindrance in the veins and thus create a new obstacle for the heart's action. Furthermore, in applying forceful manipulations peripherally where the veins are provided with valves, as, for instance, on the extremities, we would be liable to burst the valves and some troublesome complications might result. On the other hand, while working *with* the return current we need not fear that we hinder the arterial flow, as the strong walls of the arteries prevent their compression by ordinary and legitimate manipulations. But we will hasten the flow in the veins, relieve the congestion in the capillaries and remove the resistance that the heart had to overcome.

*Circumductions.* — Another important group of movements of extreme value in relieving the heart from strain is the *circumductions* or *rollings*. On the effect of these movements I quote from the researches of Professor Loven the following, which clearly determines the vast utility of circumductions in furthering the venous return-flow. Professor Loven states that "at the greater number of articulations, but especially around the hips and shoulder joints, as well as at the lower part of the neck, the superficial part of the walls of the veins is usually fastened on aponeuroses and fasciæ, which by certain movements are extended so that the veins are expanded. This causes in these veins a suction which powerfully accelerates the return current. By the alternate motions of the joints the veins may thus be alternately extended and contracted, filled with blood and again emptied. This is true not only of the extremities but also and especially of the largest of all veins, the inferior vena cava, which is so located along the front of the spine that it must follow the movements of the latter. If the thorax be bent forward, this vein becomes highly contracted, again to expand when the trunk is straightened. Experiments have proved that the capacity of the vessel largely increases at such extension. It is easy to understand how, at every extension and still more at backward

flexion of the trunk, a suction is caused in all those veins that supply the inferior vena cava, especially in those of the lower extremities. A similar condition takes place in the veins of the arms when these are extended sideways and somewhat backwards. Finally, as regards the jugular veins, these are most extended when the head is bent backward with upturned face."

To this I will only add that rollings in heart diseases always should be passive, that arm-rollings should not be carried above the horizontal plane, and that in trunk-rollings care should be taken that the trunk be not brought too far back.

*Active movements.* — I have so far spoken of only passive movements, which it will be, in any case, the safest to employ. However, as the patient improves, some easy active movements should be prescribed. They will be helpful from the following reasons: The vessels of a muscle require more blood when the muscle is active and so take this from other congested parts of the body. Through the active work a vascular dilatation is caused and the result will be that the heart, so to speak, is unloaded.

*Local heart treatment.* — Finally, we have the local heart-treatment as a means of influencing the heart's action. I do not consider the local heart-treatment, however, of as much importance by far as the general exercises above mentioned. It is true that by stroking and vibration over the heart area we are able to sooth an overexcited heart. Levin, from studying some six thousand cases, draws the conclusion that by such means the pulsations decrease from seven to twelve beats per minute. But this decrease is, after all, only temporary. We should, before all, bear in mind that our aim should be to facilitate the work of the heart. Nature strives to remedy the effects of the diseased valves by increasing the bulk of the heart muscle. But during this process it is of the utmost importance that the heart should be given the best chance possible to adapt itself to the increasing demand, in other words, to make it easier for nature to accomplish the needed compensation. This is what we should and what we can do with a proper and intelligent gymnastic treatment, always remembering that it is only indirectly that we can help the heart, by removing, as far as possible, the obstruction and the resistance that it else would have to overcome alone.

Thus I would suggest that the treatment in valvular troubles ought to follow these lines:

In severe cases, where the patient is in bed and where the breathing is difficult, — (1) Expiration-movements (chest-lift-shaking, back- and side-tremble shaking); (2) kneadings and strokings of extremities; (3) rollings of hands and feet; and (4) soothing local heart-treatment.

As the patient improves, that is, when the compensation begins to take effect, add: (5) Rollings in hips and shoulders; (6) trunk-rolling; (7) abdominal kneading; (8) inspiration exercises (as chest-lifting, chest-expansion); and (9) light active exercises.

The treatment should be given frequently,

at least once a day. A half hour daily would do much more good than an hour every other day. It is impossible, however, to lay out a procedure that can be followed in every case. Here, more perhaps than in any other group of diseases, it is a question of individualizing. The treatment must be left, in every case, to the physician's direction and the gymnast's discretion. If the treatment is carried out carefully and intelligently in accordance with the principles above suggested, there is not the slightest doubt but that we can in most cases give relief from the troublesome symptoms of palpitation, shortness of breath, pain and oppression over the heart, with other symptoms that accompany heart disease, and that we can considerably assist in bringing about a successful compensation. That is all we can expect, just as it is all any kind of treatment can accomplish. But it is my firm conviction that the gymnastic treatment gains this result by more natural and satisfactory means and gives a more lasting help than any other form of therapeutics.

I have spoken at some length of valvular lesions because they are the variety of heart diseases that most frequently come under our treatment. On other forms of heart disease I shall be brief. As a matter of fact, there is only one other group that interests us, namely, the diseases of the heart muscle.

*Diseases of the heart muscle: myocarditis.* — In myocarditis or cardiosclerosis, by the way often extremely difficult to diagnose as an individual disease, the symptomatic treatment is the only one justifiable. As the symptoms vary almost endlessly, a general procedure is impossible to indicate. The most constant ones are difficulty in breathing and venous stasis, almost always causing digestive disorders, and what has been previously said about those will apply even here. The treatment will naturally be more symptomatic than curative. But even if only the symptoms can be helped, much is gained.

*Idiopathic hypertrophy.* — The so-called idiopathic heart hypertrophy is considered to be caused by an undue strain on the heart, as in overdoing, overstraining, overeating and drinking, and so forth. Unquestionably many cases are due to the keen competition that exists in athletics, especially in this country. It is obvious that the passive movements of medical gymnastics, previously spoken of, which facilitate the work of the heart, should be the principal ones in these cases. To my mind it is unfortunate that they do not oftener come under medical gymnastic treatment, for the removal of obstructions in the circulation and the "unloading" of the heart that proper exercises accomplish should give the enlarged and mostly dilated heart the very best chance to regain its balance.

*Fatty infiltration.* — But the one muscular affection of the heart where gymnastic treatment is perhaps the most necessary and beneficial is fatty infiltration of the heart. Here it is a question principally of strengthening the heart muscle, and there is no reason why the heart muscle could not be made stronger by exercise

just as well as the skeletal muscles. Here we are justified in administering more exerting movements than in any other heart disease. But, nevertheless, we must use the utmost discretion and build our treatment on the physician's examination. For in severe cases only passive movements should be used, but as soon as possible they should be changed to active, that will force the heart to a certain amount of work. Forceful respiration movements should be given; resistive arm, leg and trunk exercises and a stimulating local heart treatment consisting chiefly of hacking and clapping. The Oertel terrain cure is much spoken of as doing wonders in this form of heart trouble, and no doubt it has been very beneficial in many cases. But to me it seems reasonable that the individual gymnastic treatment, intelligently supervised, where the amount of work and the resistance is just suited to the patient's condition, should be in every case preferable.

I will add a few words about circulatory disturbances of peripheral nature. Wherever a local congestion occurs, effected by local causes, we are able to reduce it by muscle kneadings, strokings, respiratory movements and circumduction; in what way has been sufficiently pointed out above.

**Arteriosclerosis.**—The diseases of the blood vessels are on the whole less fitted for gymnastic treatment. In arteriosclerosis the value thereof is doubtful. We may help some by hastening the return current and inducing a more uniform distribution of the blood mass. But there will hardly result any considerable diminishing of the blood pressure because here is a question of resistance in the hardened arteries. Furthermore, we should have in mind the possibility of mechanically loosening some particle of the atheromatous and calcified arterial wall which, carried out in the circulation, may lead to serious consequences.

**Thrombosis.**—The desirability of gymnastic treatment in thrombosis is even more questionable. Surely no gymnastics or massage should be given until we are reasonably certain that the thrombus has organized, for a still greater risk of causing embolism exists naturally here. On the other hand, they may bring about good results as after-treatment, especially in the formation of a collateral circulation.

**Embolism.**—The gymnastic after-treatment in embolism is also often of utmost importance, for example, the consequences of a cerebral softening where gymnastics, as we know, are extensively and successfully employed. Of course the utmost care would have to be exercised, especially that the treatment does not commence too early or be too severe.

**Aneurysma.**—In aneurysma, gymnastics are absolutely contra-indicated. While the patient is kept in bed, some light massage may be given for generally benefiting purposes, but exercises should be forbidden.

**Varicose veins.**—In varicose veins any gymnastic treatment is, to my thinking, useless and even

dangerous. Surely the varicose area should not be touched or any extensive exercises made with the limbs. Some light massage above and below in order to facilitate the creation of collateral circulation may, however, be justified.

I believe that with this I have mentioned most of the circulatory diseases where gymnastic treatment can be employed. To the valve lesions and the muscle troubles of the heart will belong probably 90% of the cases that are sent to us for treatment.

In conclusion I want once more to emphasize the absolute necessity of a co-operation with the physician in such cases. We ought to insist, if necessary, that he is often consulted for examination. I do not hesitate to claim that, with the physician's good will, medical gymnastics can obtain marvelous results in many circulatory disturbances.

## Medical Progress.

### PROGRESS IN INTERNAL MEDICINE: DISEASES OF THE HEART.

BY FRANCIS W. PALFREY, M.D., BOSTON.

(Continued from No. 17, p. 656.)

#### MYOCARDIAL DISORDERS.

It is on the subject of diseases and disorders of function of the myocardium that the bulk of literature is the greatest. So much has been written, in fact, and so much of it is so highly technical, so detailed and often so inconclusive, that only a meager outline of the more important divisions of the subject can be given in review. New histological lesions are described, and old types of lesions are studied in their occurrence, especially in positions brought into prominence by the new anatomy and physiology. Brooks<sup>106</sup> has called attention to the frequency of myocardial changes in cases with endocarditis, acute or chronic, and Carr,<sup>106</sup> in cases of rheumatism, especially in children. Stewart<sup>107</sup> has studied the occurrence of hypertrophy in experimental valvular disease. Lissauer<sup>108</sup> has studied the histology of hypertrophic hearts in the attempt to find evidence of myocardial changes to explain their lack of efficiency, such as has been taught to occur by Krehl and by Romberg, but has been unable to find adequate histological explanation.

Eppinger and Knaffl<sup>64</sup> have approached the same problem from the standpoint of pathological physiology, and come to the conclusion that the answer to the question is to be found in the blood supply and nutrition of the myocardium. Taking the hint from Locke's observation that perfused hearts were capable of greater activity if dextrose was added to the solution with which they were supplied, they conducted experiments in which animals with exposed hearts were given intravenous injections of dextrose, and of other substances under observation. They found that such injections were followed by a return of failing efficiency within five minutes. Levulose acted nearly as well, and glycogen somewhat

more slowly. Cane sugar was found almost without effect. The conclusion suggested is that this effect is simply one of nutrition upon hearts not sufficiently supplied with material to furnish energy by combustion.

Fleischer and Loeb<sup>109</sup> have produced experimental myocarditis in rabbits by injections of spartein and caffein. The lesions seem to be capable of healing, but leave the hearts functionally deficient, and the animals susceptible to pericarditis, pleuritis and pneumonia. The lesions produced seem to be independent of contraction of coronary arteries or blood supply. Apparently muscular strain was of great importance in the production of lesions. The same authors also report the experimental production of hypertrophy by means of epinephrin.<sup>110</sup>

The importance of syphilis in the production of myocardial disease has received attention exceeded only by that devoted to its investigation in connection with aortitis and aortic valvular disease. The clinical and pathological aspects of the subject are well described by Breitmann,<sup>111</sup> and the clinical manifestations by Sears.<sup>112</sup> Warthin<sup>113</sup> has reported twelve autopsies showing congenital syphilis of the heart. The lesions were not macroscopic, but appeared microscopically as diffuse perivascular and interstitial changes, associated with the presence of spirochetes. This condition, which may occur without other manifestations of syphilis, is of importance as a possible explanation of certain cases of sudden death in infants.

Faber<sup>114</sup> has collected evidence as to the further course of cases reported ten to twelve years ago by Krehl and others as juvenile arteriosclerosis with heart hypertrophy. His findings have led him to the conclusion that the condition is never followed by complete return to normal.

With regard to the arrhythmias, Hering's classification still in the main holds good, although certain modifications and subdivisions are now necessary under the main headings to cover the ground as at present described. A matter of interest to those who have not followed closely the subject of heart irregularities is the recognition of examples of these different types by simple clinical observation without tracings. This, as Hering<sup>115</sup> has pointed out, is usually possible with a fair amount of certainty when one is familiar with their symptoms and mechanism. The sinus irregularity or respiratory arrhythmia, an irregularity of stimulus production under the influence of the vagus nerve, has a characteristic occurrence in that it is a variation of rate rather than of rhythm, that it occurs chiefly in children, and that it is abolished by holding the breath, by atropine or by vagus pressure, and is increased by digitalis. Its importance lies solely in the recognition of the fact that it is of no pathological significance. The extra systole or dropped beat is recognized by the typical subjective sensations of the patient of a single forcible beat followed by a pause before the regular rhythm is resumed, and by the fact that the pulse is primarily regular with only exceptional irregularities as interrup-

tions. This type, also, is not of notable pathological significance, at least in its usual form. Extrasystoles frequently recur at regular intervals, producing bigeminal, trigeminal or similar rhythms. Irregularities due to disorders of stimulus-conduction, or heart block, are characterized by the complete omission of ventricular beats at more or less frequent intervals. In the least marked cases only occasional omissions may occur; in the next grade, omissions of every fourth, every third or every second beat occur, with marked slowing of the pulse-rate; in the most severe type, which is commonly accompanied by the attacks of unconsciousness of the Stokes-Adams syndrome, the ventricle beats at a very slow rate entirely independent of the rate of the auricles. The auricular beats are represented by pulsations of the jugular vein. The pulsus alternans is recognized, if present, in a marked degree by the fact that while rate and rhythm are not changed, the volume of every second beat is diminished, so that at the apex or at the wrist one detects an alternation of larger and smaller beats. This is due to failing power of contraction; it is to be distinguished from the bigeminal rhythm due to extrasystoles by the maintenance of equal time interval between all beats whether large or small. The fifth type of irregularity, absolute arrhythmia or the pulsus irregularis perpetuus, is a condition of complete absence of rhythm occurring chiefly in connection with organic diseases of the valves or myocardium, and accompanied, as a rule, by marked evidence of cardiac insufficiency. There is an absence of normal auricular contractions. The presence of this type of irregularity increases the gravity of the prognosis.

On the subject of these irregularities much light has been shed by their investigation by the electrocardiogram. The sinus irregularity requires no mention except as an index of influences acting on the vagus. The extrasystole, however, has been further analyzed. It was already shown by polygraphic tracing methods that extrasystoles were of two distinct types, according as they originated in the auricle or in the ventricle. It is now shown that ventricular extrasystoles are produced at different points in the ventricle, and by comparison of those experimentally produced in the exposed heart with those occurring in man, the electrocardiograms produced by those of different origin have been identified. Kraus and Nicolai<sup>116</sup> were the first to show that whereas the extrasystole of the right auricle closely resembled in its electrocardiogram the normal ventricular contraction, the curve produced by the extrasystole of the left ventricle was an almost complete reversal of this. Rothberger and Winterberg<sup>117</sup> have shown that a series of extrasystoles produced by stimuli applied at successive points along a line extending from the auriculoventricular junction to the apex showed all grades of transition between these two types. Nicolai,<sup>118</sup> Lewis<sup>119</sup> and others have furnished confirmation to Mackenzie's earlier assumption that extrasystoles frequently

originate in the auriculoventricular junctional structures. Many minor questions are still in dispute, but their importance is not sufficient to warrant their discussion at present. The form of the electrocardiogram of right and of left extrasystoles being so distinctly opposite has led some authors to raise the possibility that they may represent the occurrence of hemisystole or of one-sided partial asystole, but, as shown by Hering,<sup>120</sup> this is based entirely upon misapprehension, and that proof of hemisystole in man is wanting. The abnormal electrocardiograms show not abnormal contractions but only abnormal source of stimulation.

On the subject of heart block, the numerous articles describing cases with tracings, electrocardiograms, and autopsy findings showing lesions of the auriculoventricular bundle, well reported as many of them are, no longer can be given prominence. More deserving of notice, however, are the cases where no such lesions have been found. It can no longer be disputed that lesions of the bundle of His may produce heart block; it is still disputed whether such lesions are the sole cause of heart block. Lewis<sup>3</sup> ably summarizes the literature of such cases, and comes to the conclusion that in no case of true heart block has the auriculoventricular bundle been proved entirely normal, suggesting also that histological examination is not conclusive proof of the functional efficiency of the structure. Some such assumption as this is necessary if we are to believe that cases such as Krumbhaar's<sup>121</sup> are due to deficient auriculoventricular conduction. The possibility of a variability in the functional efficiency of the bundle is further increased by Engel's<sup>122</sup> work showing that in hearts that have never shown abnormal action changes in the bundle may occur as great as have been in cases of heart block taken to explain the disease. Nagayo<sup>123</sup> has suggested the occurrence of blocking not in the bundle itself, but in its muscular terminations; his evidence, however, is not convincing, as shown by Schmidt.<sup>124</sup> The possibility of heart block from neurogenic influences has long been advocated, as by Holst and Krohn,<sup>125</sup> who report two cases in contrast, one showing typical lesion of the bundle, while the other showed no notable lesion of the bundle, but marked changes in the vagus nerve. It is still possible, however, that the function of the bundle may have been deficient more than the histological evidence could show. Moreover, many such cases are not sufficiently proved to have shown true heart block, and not simple slowing of the whole heart. Thus it is still unproved that heart block of severe and permanent type can be due to any cause other than loss of function of the bundle of His.

A number of articles<sup>126</sup> have confirmed the observation of the occurrence of temporary heart block in febrile diseases, particularly acute rheumatism, usually in association with endocarditis. The only anatomical finding in this condition is that of Monckeberg,<sup>127</sup> who found marked lymphocytic infiltration of the auriculo-

ventricular node. Lewis<sup>3</sup> reports the finding of delayed conduction in 14% of a series of ambulatory cases of mitral stenosis.

Cases supposed to present sino-auricular heart block have been described, but the possibility of this phenomenon has not been established.

Various authors have written on the occurrence of faults of conduction of one branch of the auriculoventricular bundle, the other branch remaining normal. Experimental evidence as to this is reported by Eppinger and Rothberger,<sup>128</sup> and by Barker and Hirschfelder.<sup>129</sup> The former found that when the right branch of Tawara was divided, the ventricular portion of the electrocardiogram assumed the form produced by left-sided extrasystoles. They conclude that when either branch of the conduction system is damaged the stimulus to conduction reaches the corresponding portion of the ventricle only from the other side. Barker and Hirschfelder, on the other hand, were unable to find evidence of disturbance when the left branch was divided without injury to the right. The work of the latter authors, however, is not necessarily in contradiction to that of the former, since the results first mentioned were the finer evidence of the electrocardiogram, whereas Barker and Hirschfelder used only mechanical tracings as criteria. Their proof that no gross disturbance of action of the ventricles occurs is conclusive; they do not, however, dispute the altered physiology of conduction.

Von Wyss<sup>130</sup> and Eppinger and Stoerk<sup>131</sup> have reported cases in which from the reversal of the ventricular portion of the electrocardiogram a clinical diagnosis of a lesion of the left branch of the conduction system was made, and at autopsy such a lesion was demonstrated. Eppinger and Stoerk consider that cases with this condition are especially liable to sudden death. Herzheimer and Kost<sup>132</sup> report a case of complete heart block in which the main trunk of the bundle of His was found intact, but both branches were interrupted.

On the subject of absolute arrhythmia a notable contribution is the demonstration by Rothberger and Winterberg<sup>133</sup> and by Lewis<sup>134</sup> that the essential feature, in most if not in all cases, is that the auricle is in a state of extremely rapid fibrillary contraction. It has long been known that in absolute arrhythmia the normal auricular contractions are absent. This led first to the assumption that the auricles were paralyzed, and later to the hypothesis of Mackenzie that the point of origin of the stimulus to contraction was changed from the sino-auricular region to the region of the auriculoventricular node, and that the auricles, therefore, received their stimuli and contracted simultaneously with the ventricles. For this supposed condition was proposed the term "nodal rhythm," which came into common use, but must now be abandoned. The occurrence was first connected with human arrhythmia by Cushny<sup>135</sup> in 1907, but it remained for Lewis and Rothberger and Winterberg, working with the electrocardiograph,

to publish almost simultaneously in 1909 the connection of this abnormality of action with the common condition of absolute arrhythmia. The present belief as to the mechanism of absolute arrhythmia is as follows: That the auricles, for reasons as yet unknown, are thrown into a state of fibrillary contraction with abolition of other contractions; and that instead of the normal transmission of rhythmic stimuli to the ventricle, the auricles are constantly bombarding the ventricles with frequent stimuli to which the ventricles respond as best they can at entirely irregular intervals. The connection of auricular fibrillation with absolute arrhythmia has received ample confirmation. As to its cause, however, no certain anatomical evidence is as yet contributed. From analysis of a series of cases Lea<sup>138</sup> finds that 56% have occurred in connection with rheumatism or chorea, and in the remainder with arterio- or cardiosclerosis. The explanation of the ventriculo-systolic type of venous pulse is still wanting, but Rihl<sup>137</sup> has shown experimentally that the artificial production of auricular fibrillation in animals regularly produces a venous pulse identical with that present in absolute arrhythmia in man.

That auricular fibrillation is the sole cause of absolute arrhythmia is disputed by Esmein,<sup>138</sup> who presents evidence that in this irregularity there may be observed all grades of transition between normal function of the auricles and complete loss of normal function. Magnus-Alsleben<sup>139</sup> and Cushny<sup>140</sup> have called attention to the occurrence in animals, especially in aconite poisoning of different types of inco-ordination between auricles and ventricle.

The alternating heart has been studied especially by Hering,<sup>141</sup> who has produced the condition in dogs by chemical poisons; from observations on these and from other evidence he believes that it is due to partial asystole or hyposystole on the part of certain fibers. Joachim<sup>142</sup> and others confirm the somewhat surprising observation that in alternating hearts the electrocardiogram shows no changes from the normal.

#### PAROXYSMAL TACHYCARDIA.

Paroxysmal tachycardia is a disorder that has presented difficulties of classification. While it was formerly classed as a neurosis, it is now in distinct cases shown to be a disorder of heart action with definite characteristics which seem to justify its consideration as a clinical entity. It is to be distinguished from the simple tachycardia of excitement or of toxic conditions by the sudden onset and cessation of the attack, without transitional beats, and by the fact that in its commonest form it shows the ventricular type of venous pulse, probably from simultaneous contractions of auricles and ventricles. Mackenzie<sup>4</sup> has attempted to explain it as a rapid succession of impulses arising in the node of Tawara; Lewis<sup>3</sup> has shown evidence of its relation to auricular fibrillation; Wenckebach<sup>143</sup> has explained the simultaneous contractions of auricles and ventricles by the assumption of an

increase in auriculoventricular conduction time by which each ventricular beat is delayed until the time of the auricular beat which is to stimulate the next ventricular contraction. But the cause of the suddenly increased rate is still obscure. Dietlen<sup>144</sup> has shown by the orthodiagraph that the heart is not dilated in the attack, but, on the contrary, is diminished in size. Groedel<sup>145</sup> has analyzed a series of 56 cases; his conclusions are that in cases in younger patients a congenital defect may be assumed; in older cases myocardial lesions, as a rule arteriosclerotic, were constantly present.

Rihl<sup>146</sup> has reported three cases of extreme rapidity of auricles, while the ventricles showed no acceleration.

#### ANGINA PECTORIS.

On the subject of angina pectoris the most noteworthy clinical article is Osler's<sup>147</sup> analysis of 268 personal cases. Miller and Matthews<sup>148</sup> report experiments as to the effect of ligature of branches of the left coronary artery; they found that if either the circumflex or the descending branch alone were tied, no severe loss of function occurred, but that if either were tied with the other already occluded, the heart beat suddenly ceased. Wassilewski<sup>149</sup> has tested the effects of lycopodium emboli introduced into the coronary circulation. He concludes that if the cause of angina is an interference with coronary circulation, it must be accompanied not by spasm, but by detonization of the heart muscle.

#### PULMONARY ARTERIOSCLEROSIS.

A number of articles<sup>150</sup> have appeared reporting cases in which symptoms of insufficiency of the right side of the heart have been attributed to sclerosis of the pulmonary artery, in most instances secondary to causes of increased pressure such as emphysema and mitral disease, but in others apparently a primary condition, perhaps to be connected with fetal endocarditis or with previous infections, notably variola in childhood. A curious observation is that of Rogers,<sup>151</sup> who reports that this condition is of frequent occurrence in Bengal, and attributes it to syphilis.

#### TUMORS OF THE HEART.

The occurrence of tumors of the heart has been considered. Ehrenberg<sup>152</sup> reports two cases of sarcoma of the heart. From study of literature he finds that primary sarcomata of the heart occur most commonly in the right auricle or in the great veins, whereas other tumors of the heart are situated more often on the left. Armstrong and Monckeberg<sup>153</sup> report a case of heart block due to a minute sarcoma. Kirschner<sup>154</sup> reports a case of a hypernephroma encroaching on the heart. Verliac and Morel<sup>155</sup> have collected 12 cases, one original, of lipoma of the heart. Offergeld<sup>156</sup> has found mention of metastases in the heart in 17 instances in 7,071 cases of cancer of the uterus.



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(To be continued.)

## Reports of Societies.

### BOSTON SOCIETY OF MEDICAL SCIENCES.

MEETING HELD APRIL 16, AT THE HARVARD MEDICAL SCHOOL.

The following is an abstract of a paper presented by DR. H. M. ADLER, on

#### EXPERIMENTAL PERNICIOUS ANEMIA, AND CHRONIC POISONING BY FAT.

Fat if fed in a sufficiently large dose is toxic to rabbits. This depends upon the presence of an unsaturated fatty acid in a sufficiently large amount, such as oleic acid; hence olive oil, cotton seed oil and linseed oil, etc., are all toxic. The size of the toxic dose depends upon the amount of unsaturated acid and the degree of unsaturatedness; hence linseed oil is nearly twice as toxic as olive oil or cottonseed oil.

I. Rabbits fed 10 ccm. of olive or cottonseed oil per kilo of body weight or 5 ccm. of linseed oil per kilo of body weight die within from four to six days, even if they receive only two or three doses. The clinical appearance is a profuse diarrhea and a rapid loss of weight. At autopsy, beyond a moderate congestion of the small intestine, no important lesions were observed. That this toxicity depends on the unsaturated fatty acid and not on some highly toxic substance present as a contamination or by accident

was shown by the fact that the same result was obtained when pure triolein and oleic acid (Schuchardt) were fed.

II. If rabbits are fed one half the above dose, i. e., 5 ccm. per kilo of body weight, there is apparently no effect except that the gain in weight is a little more gradual than normally. If these daily feedings are continued, after from two to three months, depending somewhat on the age and weight of the rabbit at the beginning of the experiment, there will be a slight drop in weight not accompanied by diarrhea or any acute digestive disturbance, and the blood examination shows a picture comparable to pernicious anemia, i. e., red blood corpuscles, 4-5,000,000; hemoglobin, 50-60%, irregularity in size and shape of the red cells, marked achromia, polychromatophilia, stippling, blasts; leucocytes somewhat diminished, 5-7,000, a relative increase of lymphocytes and large mononuclear cells. The rabbits recover from this blood crisis and continue apparently healthy with the exception that they are very much under weight. They eventually die after six months to a year or more, of intercurrent infections, especially pneumonia, with the appearance of extreme emaciation. At autopsy these rabbits show practically complete absence of fat in all fat depots; a congestion of the submucosa of the intestines; fatty infarcts in the liver, slight parenchymatous nephritis, fibrous hyperplasia of the spleen, the spleen, however, not being enlarged, bone marrow pale and containing a fairly large amount of erythroblasts and a remarkable absence of storage leucocytes.

III. It was believed on account of experience with blood changes in paretics and in arteriosclerotic cases that the lymphoid tissue acts as a defense against fat intoxication; therefore, it was attempted to protect against this action by chronic treatment with substances that act upon the lymphoid tissue. Such substances are quinine and arsenic. The experiments with arsenic are not as yet completed and cannot be reported on. The experiments with quinine consist of the following two sets:

Three rabbits were fed 0.01 gm. of quinine daily for about a year. They were then fed 5 ccm. of olive or cottonseed oil per kilo of body weight daily, and after ten months show no evidence of any harmful results.

Three rabbits were given daily intravenous injections of 0.01 gm. of quinine for about two and one-half months, then were fed 5 ccm. of olive or cottonseed oil per kilo of body weight daily and developed after from eight to ten months the blood crisis with loss of weight. These three were all stunted and under weight and extremely emaciated.

Simultaneous feeding of iron salts, calcium and arsenic does not in any way affect the toxicity of the fats.

## Book Reviews.

**Arthritis.** A Study of the Inflammatory Diseases of Joints. By PETER DANIEL and JAMES CANTLIE. Published by William Wood & Co.

This is a small book on a large subject and the authors may claim indulgence if in parts their work appears superficially written. The publication is not a thorough compend and although it is called a "study" there is no evidence of special research. The writers, however, are sufficiently familiar with current medical literature on affections of the joints. Many of the illustrations are clearly drawn and will present to the student

diagrammatic explanation of lesions studied. This is especially true of the part describing the affection which the writers, following English authorities, place under the vague title of "Internal Derangement of the Knee."

The writers express a fear that some of their writings may appear "unorthodox," probably because they favor conservative rather than operative measures in the treatment of chronic joint affections, but in this they are certainly in accord with other writers of authority.

*The Bacillus of Long Life.* By LOUDON M. DOUGLAS, F.R.S.E. With sixty-two illustrations. New York and London: G. P. Putnam's Sons. 1911.

Under the above somewhat fanciful title, this book, which is further described in its subtitle as "a manual of the preparation and souring of milk for dietary purposes, together with an historical account of the use of fermented milks, from the earliest times to the present day, and their wonderful effect in the prolonging of human existence," undertakes to treat seriously of the *Bacillus bulgaricus* and the supposed well-nigh miraculous effects of milk soured by its agency. These are supposed to be due to the antiseptic action which such milk exercises on the large intestine. Whatever the bacteriologic and chemical facts of sour milk, it is certain that it has important dietary and therapeutic value, though questionable if it really is capable of prolonging life to the extent here indicated. The book, which is illustrated by 57 figures, many of them full-page plates, belongs in the category of popular science in which subjects are often presented with a picturesque seriousness which, though not incorrect, contrives to convey erroneous or unreliable impressions.

*Heredity in the Light of Recent Research.* By L. DONCASTER, M.A., Fellow of King's College. Cambridge: at the University Press. 1911.

This volume in the series of the Cambridge Manuals of Science and Literature aims to present in brief compass an exposition of the principles of heredity and of recent advances in its knowledge. Purely speculative questions are avoided in the body of the book, but in two appendices there are given a historic summary of theories of heredity and a discussion of Weismann's hypothesis of the material basis of inheritance in the chromosomes. There are also an excellent alphabetic bibliography on heredity, and a useful glossary of terms unfamiliar to general readers.

Mr. Doncaster's exposition is admirably lucid. In the main he confines himself to statement of recognized fact, and when he enters upon interpretation expresses his opinion so temperately as not to provoke controversy. Particularly illuminating is his suggestion that maleness and femaleness are really Mendelian allelomorphs, heritable characters which may become respectively dominant or recessive according to the

antecedent combinations from which they result. The determination of the sex of any individual, on this theory, would depend on the usual formulae for working out the results of any crossing.

In a science progressing so rapidly as that of heredity, the life of any text-book is short. For its day, the present manual seems of especial value. It is more compact than Hart's "Phases of Evolution and Heredity" (reviewed in the JOURNAL for Feb. 9, 1911, page 199), and has not the combative and theologic application of the Scotch work. Neither has it the speculative, howbeit logical, character of a work like Grasset's French publication, vol. iii, in his "Elementary Treatise on Physiopathology" (Montpellier: Coulet et Fils). Doncaster's book has qualities which will commend it to all classes of desirable readers. To the bibliophile it will appeal also on account of the medieval design of its title-page, which, except for the coat of arms at the foot, is a reproduction of one used in 1521 by John Siberch, the earliest known Cambridge printer.

*Home Hygiene and Prevention of Disease.* By NORMAN E. DITMAN, M.D. New York: Duffield and Company. 1912.

This book, self described as "a medical handbook containing all the information required for ordinary purposes," is, in fact, an alphabetic catalogue of diseases, symptoms and remedies, from abortion to zinc sulphate. Though the introduction avers that its purpose is "not to displace the family doctor, but to furnish the reader with general information regarding medical subjects," it is essentially a manual for the domestic treatment of disease. The "general information" which it conveys is not of the kind which it is wise or desirable for the laity to possess. Among the medicines which it recommends for constipation is the "Lady Webster pill." It is not a popular medical treatise of the sort to be recommended.

*Diseases of the Stomach. A Text-Book for Practitioners and Students.* By MAX EINHORN, M.D. Fifth revised edition. New York: William Wood & Co. 1911.

The first edition of this work was reviewed in the issue of the JOURNAL for May 27, 1897 (vol. cxxxvi, p. 524). The appearance of a fifth edition after this period of fifteen years is evidence that the book has found and maintained a position as a standard in its particular subject. In this latest revision the general plan of the work has remained the same, but several additions have been made, the most important being in the more extended consideration of the radiographic diagnosis of gastric disease. The book is illustrated with 112 figures, of which many are skiagrams. Its successive editions have represented well the recent progress of gastrology, and it should continue its useful service to those for whom it is written.

# THE BOSTON Medical and Surgical Journal.

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## A DINNER TO EMERITUS PROFESSORS.

It does not often happen in the history of an educational institution that so large a number of distinguished men retire from active teaching almost simultaneously as has recently happened at the Harvard Medical School. In commemoration of this unusual event, the faculty of medicine gave a dinner to the emeritus and retiring professors on the evening of April 24. There were present nearly one hundred and fifty members of the faculty and other teachers of the Medical School, the only guest, excepting those to whom the dinner was given, being President A. Lawrence Lowell, of Harvard University. The toastmaster of the occasion was Dr. Clarence J. Blake, professor of otology, a teacher from 1870 to the present time and senior member of the medical faculty. Dr. Blake filled the office with grace and dignity and was peculiarly happy in his introduction of the various speakers of the evening.

The first of these was Dr. James C. White, professor of dermatology, emeritus, an active teacher from 1863 to 1902. Dr. White reviewed the history of the Medical School and its extraordinary changes and development during the years, now approximately half a century, that he had known it and labored in its interests. Looking back with the perspective which his experience gives, he found some reason to question the significance of present-day progress. He queried whether change necessarily meant advance, and paid a tribute to the physician of the past, a type apparently no longer existent. Following Dr. White, Dr. Frederick C. Shattuck, professor of clinical medicine, emeritus, 1912, active teacher 1879-1912, was happily introduced as a man of profound sagacity as a teacher and student of disease, who was, nevertheless, able to lighten the

serious aspects of life and of his profession with rare wit and humor. In this particular instance, Dr. Shattuck certainly fully justified his introduction, as may be seen by reference to another column of this issue of the JOURNAL. He spoke at some length and in humorous vein on the retiring professors, with special reference to four, among whom he included himself. His characterization of Dr. E. H. Bradford, recently appointed dean of the Medical School, was particularly happy. In more serious vein, Dr. Shattuck drew attention to the significance of the work which has been done in the recent development of the Harvard Medical School, both on its material and intellectual sides; and in the course of his remarks, paid special tribute to Dr. J. Collins Warren and to the memory of the lamented Dr. Henry P. Bowditch. The final formal speech of the evening was from President Lowell, who took a wholly optimistic view regarding the future of the Medical School. He commended highly the constructive work of Dean Christian, about to retire to undertake the onerous work of the Peter Bent Brigham Hospital, especially in relation to the closer affiliation which has been brought about between hospitals and the Medical School during his brief administration of four years. He spoke of the efficiency of the teaching force and of the increased possibilities of the future owing to the proximity and intimate relations of the Peter Bent Brigham Hospital to the school. The audience, appreciative of all that he said, was particularly delighted by the characterization of Dr. Theobald Smith, now exchange professor at Berlin University, as, in the opinion of his German confrères, "a representative of the best type of American scholar and gentleman." Following President Lowell's remarks, Dr. David W. Cheever and Dr. J. Collins Warren were called upon in turn. Dr. Cheever remarked that there was a certain justification in calling upon him to speak, since with but one or two exceptions he had been the teacher of all in the room, naturally excluding those who have joined the teaching staff since his retirement. Dr. Warren, to whom the school owes a deep debt of gratitude for his activity and optimism in the construction of the buildings, expressed his appreciation of the hospitality of his hosts, and united with others in a prophecy that the future of the Medical School was assured.

In general, the gathering was a notable one, representing as it did several generations of men active in the interests not only of the school, but of medicine in its broadest aspect. It should be a source of gratification to every one that those

professors who are now retiring, or who have already received the title *emeritus*, are still active and an influence for progress. Much credit is due to those who were responsible, not only for the idea of a dinner to the respected teachers about to retire, but also for the manner in which it was carried into effect. It was a happy thought, also, that in spite of the manifest difficulties, this dinner should have been held in the administration building of the Harvard Medical School.

#### AFTERMATHS OF THE TITANIC DISASTER.

THE recovery and identification, during the past week, of over two hundred bodies from the *Titanic* wreck has illustrated the incorrectness of another of the statements widely circulated in the daily press at the time of the disaster, namely, that it would be impossible for any of the bodies, even those provided with life-belts, to float to the surface. Incidentally, it appears that Dr. W. F. N. O'Laughlin, the ship's surgeon, to whom we referred in our editorial on the subject last week, was one of those who perished, true to the ideals and duty of his profession. The accounts of survivors bear testimony to the fidelity, good cheer and valor with which he encouraged all and assisted many to places of safety in the boats. He died at his post, as a sailor, a physician and a gentleman should, and his memory will be cherished with gratitude and noble pride for his example of fortitude and gallantry.

Another aftermath of the *Titanic* disaster is the computation of the pecuniary loss which it involves. In one estimate of this enormous sum the attempt is made to reckon the money value to the world of the 1,600 lives lost, which is computed at a capitalized total of \$2,496,000,000, an amount which more than swallows up even the great individual wealth of some of the passengers. Such computation, however, partakes of the nature of the economic fallacy in reckoning the pecuniary loss to the community from tuberculosis. Yet even if the loss from the *Titanic* disaster were accurately measured by these immense figures, it would be more than outmatched by the gain to humanity in the lessons to be learned from that disaster and in the splendid demonstrations which it occasioned of the integrity of human courage and the vitality and dominance of the finest qualities of heroism which civilization represents. The fixing of blame and the counting of cost are matters of minor moment in face of such a triumph of the truest "*noblesse oblige*." The

only loss would be the forgetting of such examples. "It is for us, the living, rather here highly to resolve that these dead shall not have died in vain."

#### AN EPIDEMIC OF AIR-BORNE MALIGNANT TONSILLITIS.

IN the *Journal of the American Medical Association* for April 20 is an article on "Malignant Pneumococcus Tonsillitis," by Dr. Leonard K. Hirshberg, who describes the untoward complications and the bacteriology in a series of 43 cases occurring during the epidemic of tonsillitis in Baltimore early this year. Of these cases several were seriously sick, one died of peritonitis and one of septicemia. In the cultures from all of them, Dr. Hirshberg was able to isolate the pneumococcus, which he believes to have been the etiologic agent of infection. Similar epidemics in our own community, and in others, this year and last, have been officially attributed to streptococcal infection disseminated by milk supply. In the recent Baltimore epidemic, milk, water or food could not be proved responsible for the spread of the disease. In previous issues of the *JOURNAL* we have from time to time suggested the likelihood that the infection in such epidemics may be air borne, with a point of entry in the nasopharynx, rather than due to ingestion. This theory would explain the diffusion of such infections in instances when the milk transference doctrine cannot be established. Dr. Hirshberg's series of cases seems to represent one of these instances and should at least suggest to the profession the possibility of air-borne transmission and stimulate the reporting of further clinical and bacteriologic data on this important subject.

#### THE EXTERMINATION OF THE FLY.

IT is announced that during the coming season the city of Cleveland, Ohio, will pay for all dead flies brought to the city hall, at the rate of ten cents a hundred. This seems like too high an initial quotation. Perhaps it is intended only as a bait to stimulate juvenile interest, cupidity and activity. Doubtless with the progress of the season, competition will lower the rate. Otherwise, we fear that Cleveland, and any other municipality that follows her example, will become bankrupt. It should be an easy matter for any enterprising small boy to catch several hundred thousand flies during the summer, thereby enriching himself by the princely sum of several hundred dollars; and if many thousand children

should do the same, financial disaster to the community of tax-payers might result. In the public press much has been made of the scientific computation that each adult female fly alive on April 15 becomes by Sept. 10 the ancestress of 5,598,720,000,000 descendants. There is in this something akin to the statistician's economic fallacy. Fortunately for mankind, many of these hypothetical offspring fail to grow up, to be hatched or even to be begotten. Desirable as it is to discourage the breeding of flies, it must be remembered that nature has provided a system of checks and balances superior even to those of the United States Constitution.

### MEDICAL NOTES.

CONFERENCE OF RED CROSS SOCIETIES. — The International Conference of Red Cross Societies will be held at Washington, D. C., from May 7 to 17, 1912.

BUBONIC PLAGUE AT CARACAS. — A press report from Washington, D. C., on April 24, alleges that bubonic plague has appeared at Caracas, the capital of Venezuela. The number of cases is not stated.

A BRITISH CENTENARIAN. — It is reported that Mrs. Sleep, of Barnstaple, Devonshire, England, who is locally reputed to have been born in 1812, celebrated recently her supposed centennial anniversary, and is in excellent health.

LONDON DEATH-RATES IN MARCH. — Statistics recently published show that the total death-rate of London in March was 14.0 per 1,000 living. Among the several districts and boroughs, the highest rate was 18.3 in Southwark, the densely populated slum area on the right bank of the Thames, and the lowest was 10.1 in Wandsworth, a "model tenement" district in the same region.

AN ARMY SURGEON AS MILITARY AIDE TO THE PRESIDENT. — Report from Washington, D. C., on April 26, states that President Taft has designated Surgeon-Major Thomas L. Rhoads, of the United States Army Medical Corps, as his military aide, to succeed the late Major Butt, lost on the *Titanic*. Dr. Rhoads, who is the first physician ever appointed to this post, has recently been in charge of the Walter Reed Hospital, at Washington.

SESQUICENTENNIAL OF THE LYONS VETERINARY SCHOOL. — It is announced that during the current month of May there will be celebrated with

appropriate ceremonies the sesquicentennial anniversary of the founding of the Veterinary School at Lyons, France. This is said to be first the school of veterinary medicine ever established.

"In connection with this anniversary it is planned to establish a local museum, the exhibits of which in archives, illustrations, instruments and appliances will give a complete view of the evolution of instruction in veterinary medicine and surgery."

THERAPEUTIC REPORTS FROM THE TUBERCULOSIS CONGRESS. — Preliminary reports from the proceedings of the recent Seventh International Congress on Tuberculosis, at Rome, contain abstracts of papers by Dr. Barbier, of Paris, on "The Employment of Zomotherapy in Tuberculosis," and by Dr. Samuel Bernheim, of Paris, on "New Researches in the Iodo-Radium Therapy of Tuberculosis." The former advocates particularly the use of extracts of horse meat, and the latter the intramuscular injection of an iodo-radium compound in surgical tuberculosis.

POLIOMYELITIS IN 1910 AND 1911. — The weekly report of the United States Public Health and Marine-Hospital Service for April 19 contains a comparative table summarizing the cases and fatalities from poliomyelitis reported from the registration area in 1910 and 1911. In 1910 the total number of cases reported was 5,861 with 950 deaths; in 1911, there were 1,931 cases and 440 deaths. In 1910, the states having the largest number of cases were Pennsylvania, Massachusetts and Iowa; in 1911, New York, Virginia and Massachusetts.

PHILIPPINE BUREAU OF HEALTH. — The recently published twelfth annual report of the Bureau of Health for the Philippine Islands records the work of that department for the fiscal year ended June 30, 1911. During the absence of the director, Dr. Victor G. Heiser, on leave, the bureau has been in charge of Dr. Carroll Fox. The islands are now essentially free from dangerous communicable diseases, and the bureau is left relatively free to devote its energies to the general hygienic and sanitary improvement of the country and education of the people. The report deals with these activities in detail, illustrated by a series of excellent engravings.

TREATMENT OF INFANTILE BERIBERI. — In the February bulletin of the Manila Medical Society is an article by Major Weston P. Chamberlain and Captain Edward B. Vedder, of the United States Army Medical Corps, on "The Cure of

Infantile Beriberi by the Administration to the Infant of an Extract of Rice Polishings, and the Bearing Thereof on the Etiology of Beriberi." They believe that the greatest mortality of breast-fed infants in the Philippines is from beriberi, and that it is due to deficiency in the maternal diet. They have successfully treated 15 cases by administering extract of rice polishings to the infants. Their work seems a final link in the chain of evidence indicating that beriberi is a disease of dietary origin, due to the exclusive ingestion of highly milled rice.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.**—For the week ending at noon, April 23, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 23, scarlatina 29, typhoid fever 1, measles 150, smallpox 0, tuberculosis 72.

The death-rate of the reported deaths for the week ending April 23, 1912, was 17.96.

**BOSTON MORTALITY STATISTICS.**—The total number of deaths reported to the Board of Health for the week ending Saturday noon, April 27, 1912, was 232, against 206 the corresponding week of last year, showing an increase of 26 deaths, and making the death-rate for the week, 16.80. Of this number 110 were males and 122 were females; 224 were white and 8 colored; 123 were born in the United States, 106 in foreign countries and 3 unknown; 44 were of American parentage, 166 of foreign parentage and 22 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 32 cases and 2 deaths; scarlatina, 25 cases and 0 deaths; typhoid fever, 4 cases and 1 death; measles, 177 cases and 0 deaths; tuberculosis, 84 cases and 25 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 34, whooping cough 2, heart disease 42, bronchitis 2. There were 8 deaths from violent causes. The number of children who died under one year was 36; the number under five years, 52. The number of persons who died over sixty years of age was 70. The deaths in hospitals and public institutions were 101.

**GIFT TO HARVARD MEDICAL SCHOOL.**—It is announced that Mrs. Walter M. Underhill has recently given to the Harvard Medical School a fund of \$10,000, the income of which is to be devoted to investigation in the diseases and functional disturbances of the nervous system.

**GIFT TO HIGHLAND HOSPITAL, FALL RIVER.**—It is announced that a gift of \$35,000 has been made for a nurses' home for the Highland Hospital at Fall River, Mass. The name of the donor has not been made public.

**SEWAGE POLLUTION OF NEW HAVEN HARBOR.**—Report from New Haven, Conn., states that on April 24 the local board of health voted to prohibit the sale of oysters and clams taken from within the confines of New Haven Harbor, owing to the sewage pollution of these waters.

**DEATH-RATE OF PORTLAND.**—A bulletin recently issued by the Board of Health of Portland, Me., shows that during the four weeks ending on Feb. 3, 1912, there were in that city 73 deaths, corresponding to an annual death-rate of 15.31 per 1,000, or 13.43 exclusive of transients.

**REGULATION OF MEDICAL TESTIMONY IN CONNECTICUT.**—Report from New Haven, Conn., on April 26, states that the New Haven County Bar Association has appointed a committee to investigate the statutory regulation of expert medical testimony and to report to the Connecticut State Medical Association a proposition for its legislative betterment.

**FREE HOSPITAL FOR WOMEN.**—Invitations are issued by the trustees of the Free Hospital for Women, Brookline, to the formal opening of the new operating rooms of the hospital on Thursday of this week, May 2. At the exercises there will be addresses by President Lowell, Dr. William H. Baker, Dr. Charles M. Green and Dr. Maurice H. Richardson.

**PROPOSED IMPROVEMENTS AT LONG ISLAND HOSPITAL.**—It is reported that there has been recommended an appropriation by the city of Boston of \$190,000 for the provision of new buildings and equipment at the Long Island Hospital. It is proposed to build a new central kitchen, to change the administration offices from the hospital to the main building, to make needed additions in the women's quarters, and to add to the men's quarters two new dormitories containing beds for one hundred more inmates.

**INSTRUCTIVE DISTRICT NURSING ASSOCIATION.**—Last week the Boston Instructive District Nursing Association opened in various quarters of the city nine sub-stations, each furnished with supplies and records and in charge of a supervising nurse. The purpose of these stations is to afford local centers from which the work of the Associa-



tion may be carried on, and to which nurses can report each day for materials and instruction, without being obliged to go to the central office. It is hoped in this way to facilitate and expedite the work of the nurses, both economizing their time and energy and making their application more efficient. The endowment fund of the Association, to which reference has been made in previous recent issues of the JOURNAL, now amounts to \$66,440. Further contributions to it are urgently needed and earnestly desired.

#### NEW YORK.

**OPENING OF BRONX DISPENSARY.** — The Bronx Dispensary, which is to be the basis of the future Bronx Hospital, was formally opened on April 20, with addresses by Dr. Abraham Jacobi and others. A dwelling house with twenty rooms, in a crowded section of the borough, has been leased until the funds have been secured to erect an adequate hospital building. The dispensary will have sixteen departments, including an emergency department which is to be kept open day and night.

**REPORT OF ST. LAWRENCE GENERAL HOSPITAL.** — The recently published twenty-fifth annual report of the Board of Managers of the St. Lawrence State Hospital at Ogdensburg, N. Y., records the work of that institution for the year ending Sept. 30, 1911. During this period 2,273 patients were under treatment, of whom 1,072 were men and 120 were women. Fourteen nurses were graduated from the training school.

**NEW QUARTERS OF CITY HEALTH DEPARTMENT.** — On May 1 the City Health Department removed from the building at the corner of Sixth Avenue and 55th Street, formerly the home of the New York Athletic Club, which it has occupied for a number of years, to new quarters down town, at the corner of Centre and Walker streets.

**RED CROSS TITANIC FUND.** — At the close of the week ending April 27 the fund for the relief of the *Titanic* survivors and the families of the victims started by Mayor Gaynor amounted to about \$125,000, as the result of contributions sent direct to the mayor or to Jacob H. Schiff, treasurer of the New York County Chapter of the American National Red Cross. All of the money thus raised is placed at the disposal of the Red Cross Society.

**SURVIVORS OF TITANIC DISASTER.** — Dr. Henry W. Frauenthal, of New York, surgeon-in-chief of the Hospital for Deformities and Joint Diseases, was among those who escaped death in the wreck

of the steamship *Titanic*. One hundred and fifty of the survivors were treated in the New York hospitals, 106 of these at St. Vincent's Hospital, the nearest one to the steamship docks; and all have been reported as doing well. Two children who were found to be suffering from measles were taken to the Willard Parker Hospital.

**CONSUMPTIVE RELIEF SOCIETY.** — At a recent benefit performance given at the Broadway Theater the sum of \$3,000 was netted for the New York Ladies' Auxiliary of the Jewish Consumptive Relief Society.

**BRONX MATERNITY HOSPITAL.** — On April 21 a meeting of residents of the Bronx was held for the purpose of starting a movement for the establishment of a free maternity hospital in that borough. For some time past an institution known as the Bronx Jewish Maternity Hospital has conducted a dispensary service, but this is now entirely inadequate to the needs of the congested district in which it is situated, and it is felt that it should be developed into a first-class hospital.

**NEW YORK POLYCLINIC MEDICAL SCHOOL.** — The new building of the New York Polyclinic Medical School and Hospital on West 50th Street was thrown open for public inspection on April 17. It is a very substantial and finely equipped fire-proof structure, twelve stories in height, and it bears across its front, in letters of bronze, the inscription, "For the Sick Without Regard to Race or Creed." The removal of the hospital staff and patients from the quarters in East 34th Street which the institution has occupied for many years will be made the first of May.

**CRAIG COLONY FOR EPILEPTICS.** — The recently published eighteenth annual report of the managers and officers of the Craig Colony for Epileptics at Sonyea, Livingston County, N. Y., records the work of that institution for the year ending Sept. 30, 1911. On that date there were at the colony 1,420 inmates, of whom 761 were males and 659 females. The report of the resident pathologist contains extensive data of particular interest and value relative to 54 autopsies performed at the institution during the year.

**MEMORIAL TO DR. O'LAUGHLIN.** — On April 23 an informal meeting was held at St. Vincent's Hospital to appoint a committee to take into consideration the founding of a pathological laboratory at the hospital as a memorial of Dr.

William Francis O'Laughlin, who perished in the *Titanic* disaster. Dr. O'Laughlin was ship's surgeon on the *Titanic*, and had been for forty years in the service of the White Star Steamship Line.

**DEDICATION OF POTTER MEMORIAL BUILDINGS.** — On April 17 there were dedicated, with appropriate ceremonies, the Potter Memorial Buildings, a handsome block of model tenements on East 78th Street, erected "to the memory of Henry Codman Potter, Bishop of New York, in grateful recognition of his wisdom and courage and righteousness and service." These houses will accommodate two hundred families and represent an investment of \$350,000 by a number of the family and friends of the late Bishop Potter in the stock of the City and Suburban Homes Company, of which Dr. E. R. L. Gould is president, and which is known as a "business philanthropy."

**THE RED CROSS IN JAPAN.** — The delegates from Japan to the International Red Cross Congress, to be held in Washington on May 7, have arrived in New York, and on April 25 they described the growth and popularity of the society in that country, stating that the membership was now 2,000,000, and included many prominent persons. Count Ogasawara, one of the delegates, said that during the recent war his wife, her mother and his own mother served as nurses in one of the large military hospitals in Tokio. At the conference in Washington they will exhibit a number of appliances used by the Japanese in hospital and field work. The French delegation to the Red Cross Congress, headed by Gabriel Hanotaux, ex-minister of foreign affairs, and a member of which is Dr. Dedet, of Paris, reached New York on April 26, by the new French liner *France*. Dr. M. Silverman, the Vienna surgeon, who is the official delegate of the Austro-Hungarian Government to the congress, has also arrived.

**WORKMEN'S COMPENSATION BILL.** — A conference to consider a comprehensive workmen's compensation bill for New York was agreed upon on April 26, at a meeting of the Workingmen's Compensation Committee of the New York State Council of the National Civic Federation, and May 17 was fixed upon as the date for the conference. At this meeting the discussion turned on the question whether the conference should consider only compensation for industrial accidents or should go into the questions of occupational diseases and the prevention of accidents and illness,

and the matter of the scope of the conference was finally left to the decision of a sub-committee. The conference will seek to furnish the Legislature's Factory Investigation Committee, now working under the chairmanship of Senator Wagner, with information useful in the framing of a compulsory compensation law, which it is expected can be enacted when a proposed amendment to the State Constitution making such a law legally possible is adopted.

**STADIUM FOR COLUMBIA UNIVERSITY.** — Columbia University is to have a great stadium, as well as the College of the City of New York, according to an announcement recently made by Park Commissioner Charles B. Stover. This is to be situated on made land reclaimed from the Hudson River and extending from 114th Street to 120th Street, corresponding with the university campus, further east. The city, however, engages to fill in to a distance of only 200 ft. from the shore and the university will be expected to fill in the remaining 200 ft., as it is planned to have the stadium extend 400 ft. out into the river. The site is just north of the elaborate water-gate to be constructed as a memorial of the Hudson-Fulton anniversary in 1909. Columbia has been legally granted the privilege of having a stadium here by a bill which was passed by the legislature and signed by the governor in 1906, but as the land on which it is purposed to erect it will be a part of Riverside Drive Park, objection is being raised to such a use of public park property, and it is possible that sufficient influence may be brought to bear to have the privilege rescinded.

**REDUCTION OF INFANT MORTALITY.** — During the week ending April 20 there were in New York City 251 deaths under one year of age, as compared with 334 for the corresponding week of the previous year. From January 1 to date there have been, in New York City, 357 fewer deaths under one year of age than during the same period of 1911. During this time the decrease in the deaths from diarrheal diseases has been 220, that is, 467 deaths under one year of age as compared with 687 for the same period of 1911.

While this reduction in infant mortality is very gratifying, and is undoubtedly due in large part not only to the work of the Infants' Milk Stations, but to the educational movement that has been carried on for the past two or three years, yet it is to be hoped that it will not give the public, particularly the mothers of the city, a false sense of security. It should be remembered that much

more can be done during the spring months to save the babies from dying next summer than can possibly be accomplished when the heat of the summer is already here.

The department now has 51 infants' milk stations, and all mothers of the city who are unable to employ a private physician to instruct them in the proper way to care for their babies are urged to go to the nearest milk station and obtain the proper instruction from the doctor and nurse who are in attendance.

**TYPHOID MORTALITY IN 1911.**—The State Department of Health reports that in the state of New York in 1911 the mortality from typhoid fever was 14.3 per 100,000 population, a fraction less than in 1910, though the rural rate was 13, as against 15.4 in 1910. In the last five years the number of deaths has been lower than for any five-year period, and in the four last the number has been down to near 1,300. In the department records the deaths have never been fewer than 1,300, and there have never been as many as 2,000, though this figure has been approximated in three years when there was a large epidemic in some place. In the rest of the years, for twenty-five years, there has been an average of 1,500 deaths a year, and in the years in which unusual epidemics did not occur and there was not much variation from this; that is, a variation within 300. Averaging the typhoid mortality in the cities of the state, grouped according to their water supplies, the best showing is found to be in those supplied from creeks and small streams collected in reservoirs. The best individual records are those of such surface watersheds remote from habitations or guarded by regulations and inspections. Putting the groups in their order of average and recent typhoid mortality (deaths per 100,000 population annually), the record is as follows:

	Ten year average.	1911.
Cities using water from streams and reservoirs,	26	10
Cities using unfiltered lake water,	26	18.6
Cities using filtered surface water,	27	23
Cities using well or spring water,	32	25
Cities using filtered river water,	37	25
Cities using unfiltered river water,	56	64

The betterment in 1911 over the ten-year average is stated to be practically all due to improvement in water supply; in some instances by a new source and in some by better treatment. In New York City, where the sources of supply in

the other boroughs differ from that in Manhattan and the Bronx, the typhoid mortality in 1911 was 11 per 100,000 population.

**STERILIZATION OF CRIMINALS.**—The following press report from Albany on April 20 describes the enactment into law of the bill for the sterilization of criminals in New York state.

"The bill introduced by Assemblyman Bush which aims to eliminate as much as possible the transmission of criminal and mentally deficient tendencies from parent to child has become a law through the signature of Governor Dix. It is the outcome of a movement on foot for several years with the strong support of physicians and criminologists, as well as members of the judiciary. In adopting such a law New York is following the example of New Jersey, Illinois and other states.

"The new law provides for the sterilization of certain classes of male criminals and defectives confined in state institutions and creates a board to be known as the Board of Examiners of Feeble-Minded, Criminals and Other Defectives; the board to be made up of one surgeon, one neurologist and one medical practitioner, each with ten years' experience.

"If this board after an examination finds that an inmate of the class affected by the law would transmit to his offspring a tendency to crime, insanity or feeble-mindedness, or that his own mental or physical condition would be improved thereby, it is to appoint one of its members to perform the necessary operation.

"The criminals who come within the operation of the law are those who have been convicted of rape or of such a succession of offenses as the board may decide to afford sufficient evidence of confirmed criminal tendencies. The board also is required to examine into the mental and physical condition, the record and family history of all male feeble-minded, epileptic and other defective persons in the state institutions to determine whether they shall come within the operation of the law.

"While the board thus created is made the judge of the habitual criminality of prisoners, provision is made for a judicial review of the findings of the board before the necessary operation is performed, and no order of the board can become effective until it has been filed for five days. Careful records are to be kept of the effect of the law's application upon those who come within its provisions."

## Current Literature.

### MEDICAL RECORD.

APRIL 20, 1912.

1. FRISSELL, L. F. *Report of a Case of Acute Endocarditis with Rupture of All the Chordæ Tendineæ of the Anterior Curtain of the Mitral Valve.*

2. \*SEIBERT, A. *Camphor and Pneumococci.*
3. NASCHER, I. L. *Geriatrics.*
4. MANNHEIMER, G. *Free Postgraduate Medical Instruction.*
5. GLASGOW, M. *Gonorrhea in Women.*
6. VOGEL, K. M. *The Movement for Internationalism in Medicine and Hygiene.*

2. Seibert experimented with camphorated oil injections in twenty animals inoculated with a fatal dose of pneumococci. Death was prevented in 9 and retarded in 8 more. He finds that the subcutaneous injection of 30% camphorated oil (equal to 36 gr. of pure camphor) to 100 lb. human body weight every eight to twelve hours is harmless and materially assists in overcoming pneumococcus toxemia. In rabbits much larger doses are safe. [L. D. C.]

## NEW YORK MEDICAL JOURNAL.

APRIL 20, 1912.

1. EDGAR, J. C. *Etiology of Perineal Lacerations.*
2. BROWNING, W., AND LINTZ, W. *The Use of Spinal Fluid (Autotherapy) in the Treatment of Chronic Syphilides, Especially of the Central Nervous System.*
3. WOLF, H. F. *Report on the Activity of the Department of Physical Therapy of Mount Sinai Hospital Dispensary.*
4. CLARK, L. P., AND TAYLOR, A. S. *An Analysis of the Results of Dorsal Root Section in the Treatment of the Spastic State of Cerebral Diplegia.*
5. STRABENMULLER, G. *The School and the Doctor.*
6. NEUWELT, L. *Recurrence of Syphilitic Manifestations after Combined Salvarsan and Mercurial Treatment.*
7. LIKES, S. H., AND SCHOENRICH, H. *A Summary of the Technic Employed in the Administration of Salvarsan.*
8. HANLEY, L. G. *Ranula.*
9. DESVERNINE, C. M. *A Contribution to the Study of the Physiology and Pathology of the Skeleton of the Oral Extremity of the Thorax (Stethographic Method).*

## THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

APRIL 20, 1912.

1. \*NOGUCHI, H. *Experimental Research in Syphilis, with Special Reference to Spirocheta.*
2. \*VANDERHOOF, D. *The Pseudo-Malarial Types of Pyelitis.*
3. \*MAY, E. S. *The Germicidal Action of Basic Fuchsin.*
4. LEWIS, H. B. *The Value of Inulin as a Foodstuff.*
5. MURPHY, J. B. *A Contribution to the Surgery of Bones, Joints and Tendons. (Continued.)*
6. HIRSHBERG, L. K. *Malignant Pneumococcus Tonsillitis.*
7. WALLER, F. E. *Multiple Diverticula of Ileum.*
8. FOX, H. *A Case of Extensive Pigmented and Hairy Nevus of the "Bathing Trunk" Type, Presenting Genital Tumors.*
9. ROBERTS, P. W. *A New Traction Frame.*
10. PROUTY, I. H. *Orchitis Secondary to Tonsillitis Treated with Hexamethylenamin. Report of a Case.*
11. GARDINER, E. J. *A Practical Ophthalmodynamometer for Office Use.*
12. RIDER, F. *A Practical Bone Clamp.*
13. LONGLEY, J. R. *Syphilis, Diabetes and Salvarsan.*
14. HONDA, E. D. *A Case of Acetonemia.*

1. Noguchi's extensive review of the subject of the research work in syphilis tells of the various organisms discovered prior to the spirocheta pallida; of its discovery, cultivation on media, differentiation from other morphologically and culturally allied organisms, and of its morphological and pathological variations. A part of the paper is devoted to the discussion of allergy in syphilis and the relations of the spirocheta and the Wassermann reaction. The paper is an excellent and thorough review of the subject to date.

2. Vanderhoof brings out in his paper a very important point in regard to unexplained fevers which should receive the most careful attention of the profession, that is, the frequency of pyelitis as a primary cause in many unexplained cases. Forty-seven patients have been seen by the author in the past five years, of whom twenty-one had been treated for malaria. The clinical feature of these

two diseases may be almost identical; the differentiation, however, is not difficult; but confusion will continue till physicians realize that quinine is a specific for malaria and that it is useless to continue this remedy if the febrile disturbance persists. Furthermore, quinine even in moderate doses is irritant to an infected kidney. Pyelitis is often the cause of unexplained fevers, especially in young children.

3. May claims for basic fuchsin a germicidal agent more powerful than carbolic acid and one which is less toxic and has marked stimulative action on epithelial and granulation tissue growth. [E. H. R.]

## JOURNAL OF INFECTIOUS DISEASES.

MARCH, 1912.

1. HOLMAN. *Rapid Filtration of Agar and Gelatine.*
2. KRAMWIEDE, PRATT AND GRUND. *Cholera.*
3. \*DAVIS. *On Plasma Cells in the Tonsils.*
4. \*DAVIS. *Bacteriology and Pathology of the Tonsils, with Especial Reference to Chronic Arthritis, Renal and Cardiac Lesions.*
5. WHERRY. *Amebacidal Action of Emetin.*
6. \*TORREY. *Numbers and Types of Bacteria Carried by City Flies.*
7. LARME. *The Complement Fixation Reaction in the Diagnosis of Contagious Abortion of Cattle.*
8. CLARKE, HAMILL, POLLACK, CURTIS AND DICK. *Studies on Pellagra Based on Its Occurrence in 1910 in the Cook County Institution at Dunning, Ill.*
9. ADDIS. *The Bactericidal and Hemolytic Powers of "Paraffin" Plasma and of Serum.*
10. GRUNER AND FRASER. *Observations on the B. Mesentericus and Allied Organisms.*
11. \*HEALY AND KASTLE. *Parturient Paresis (Milk Fever) and Eclampsia.*
12. KASTLE AND HEALY. *The Toxic Character of Colostrum in Parturient Paresis.*
13. HEALY AND KASTLE. *The Internal Secretion of the Mammary as a Factor in the Onset of Labor.*
14. RIDEAL AND RIDEAL. *Some Remarks on the Rideal-Walker Test and the Rideal-Walker Method.*

3. Plasma cells, which are not present in the tonsil of the fetus and newborn, seem to the author to appear only when the tonsil loses its sterility. Hence their presence is taken to indicate a chronic infectious process or the absorption of toxic or irritating products.

4. Davis finds the cultivation of surface organisms from the tonsils unsatisfactory, because of the mixture of organisms found. The crypts yield better results. Often pure cultures of the hemolytic streptococcus or a variety of pneumococcus are obtained. These produce in experimental animals joint or cardiac lesions. The frequent presence of virulent streptococci in otherwise normal tonsillar crypts explains the existence of streptococcus carriers.

6. The seasonal relation of organisms carried by city flies is of interest. Up to the latter part of June the fly carries coccal forms almost entirely. During the next two months a profusion of fecal forms are recognized. The latter are found on the outside of the body, but to a far greater extent in the alimentary tract.

11. A close relation in contributing causes, development and symptomatology exists between parturient paresis and human eclampsia. It is now known that the seat of trouble lies in the udder. This is believed to be a toxemia possibly dependent on an abnormal or perverted internal secretion. The treatment, consisting of the dilatation of the udder, is extremely valuable and has reduced the mortality greatly. The anatomical lesions of eclampsia are reproduced in laboratory animals inoculated with parturient paresis material. [L. H. S.]

## THE LANCET.

MARCH 30, 1912.

1. \*BAINBRIDGE, F. A. *Milroy Lectures on Paratyphoid Fever and Meat Poisoning. Lecture III.*
2. EINHOVEN, W. *The Different Forms of the Human Electrocardiogram and Their Signification.*
3. ADAMS, A. *A Case of Ruptured Kidney.*
4. KENNARD, D., AND GORDON, W. H. *Salvarsan in Syphilis.*

5. FOTHERGILL, W. E. *Classification in Gynecology.*
6. ADIE, H. A. *The Sex of the Larvæ of Mosquitoes and Other Experimental Work.*
7. McKECHNIE, W. E. *Abscess of the Lung and Liver: Simple Cure of a Chronic Case by the Upside-Down Position.*
8. STEWART, D. *Pulmonary Embolism as a Sequel to Diphtheria.*
9. THOMPSON, H. T., AND SINCLAIR, J. *Telegraphists' Cramp. Part I.*

1. The third Milroy Lecture on paratyphoid fever and meat poisoning is a somewhat detailed bacteriological study of the organisms involved, *B. suispestifer* and *B. enteritidis*. He discusses the occurrence of these organisms in man and other animals and the question of carriers. In the majority of cases of meat poisoning he believes that one or both of these bacteria are the causal agent and not ptomaines, and further that this condition is a distinct one from paratyphoid fever. [J. B. H.]

## BRITISH MEDICAL JOURNAL.

MARCH 30, 1912.

1. BUNCH, J. L. *A Lecture on Skin Rashes in Children.*
2. \*MORRIS, M. *A Case of Late Syphilitic Glossitis Treated by Salvarsan (Ehrlich-Hala).*
3. \*STOPFORD-TAYLOR, G. G. S., AND MACKENNA, R. W. *Sixteen Months' Experience of Salvarsan.*
4. EDGEWORTH, F. H. *Cases of Chronic Purpura With and Without Cutaneous Lesions.*
5. ROW, R. *Leishmania Donovanii and Leishmania Tropica.*
6. PARKER, R. *Epithelioma of Hand and Glands: Removal of Two Fingers and the Glands.*
7. HEWITT, R. M. *An Acute Poliomyelitis (Heine-Medin's Disease).*
8. CROSS, G. F. *Acute Anterior Poliomyelitis in Southwest Norfolk.*
9. \*BRYAN, C. W. G. *Serum and Vaccine Therapy in Connection with Diseases of the Eye.*

2. Morris describes a remarkable case of syphilitic glossitis treated with strikingly good results with salvarsan. There is an excellent plate.

3. Stopford-Taylor and Mackenna report their results with salvarsan during the past sixteen months. They consider a combination of salvarsan with mercurial treatment to be the most efficacious.

9. Bryan in this paper discusses the effects of various specific sera on eye disorders such as diphtheria and tetanus antitoxins and antirheumatic, antistreptococcal and antionococcal sera. He describes the results of other writers. [J. B. H.]

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 13.

MARCH 26, 1912.

1. \*MAGNUS, R. *Relation of the Head to the Limbs.*
2. \*MUCK, H. *New Immuno-Biologic and Clinical Studies of Tuberculosis in Reference to Leprosy.*
3. AUTENRIETH, W., AND FUNK, A. *Colorimetric Estimation of Grape Sugar and Indican in the Urine, and of Iron in the Blood.*
4. KAHN, F. *The Question of Adrenalin and Like Substances in the Serum.*
5. SCHMIDT, A. *Clinical Experience with Schindler's Joka.*
6. TSCHMARKE. *General Purulent Peritonitis: Its Treatment with Special Reference to Appendicitis.*
7. EISLER, F. *Röntgen Diagnosis of Gastric Ulcer.*
8. BARK, W. *Habitual Subluxation of the Carpometacarpal Joint with Consequent Tenosynovitis.*
9. FUNKE. *A Practical Instrument.*
10. SCHLAGINTWEIT, F. *An Improved Aräometer for Very Small Quantities of Urine.*
11. EHRMANN, O. *Röntgen Castration for Prostatic Hypertrophy.*
12. OPPENHEIMER, K., AND LANDAUER, W. *State of Nutrition of Public School Children in Munich.*
13. ZUELZER, G. *Effect of Hormonal.*
14. HOKE, E., AND RIEHL, J. *Toxicity of Salvarsan Intravenously: Experiments on Dogs and Rabbits.*

15. KÖLLE. *The German Sanatoria in Davos.*

16. \*CRÄMER, F. *Cecum Mobile and Chronic Appendicitis. (Concluded.)*

1. Magnus reports most interesting results of experiments with cats from which the function of the cerebral hemispheres had been excluded by operation. He followed out the work of Sherrington on this subject and that of Ewald, who showed that the labyrinth has an influence on muscle tonus. The work seems clearly to show that reflexes from the labyrinth excited by changes in the position of the head follow fixed laws so that the effect of a given change in the position of the head in space will be uniformly followed by a certain set of changes in the tonus of the flexors and extensors of the limbs. By cocainizing or removing the labyrinths it was shown that wide pendant reflexes arise from different segments of the neck when the position of the head is modified with regard to that of the body. Reflexes from both sources may be aroused at once and serve to explain changes of tonus for all possible positions of the head and body. The same experiments performed on dogs gave practically the same results, and a few infants having severe lesions of the brain which practically shut off the cerebral influence reacted in much the same way. Normal infants at an early age showed slight reactions of a similar kind, but the variations in tonus were very transient and somewhat inconclusive, whereas the reflex in the cat led to tonic spasm which persisted as long as the position of the head was maintained.

2. Muck presents a somewhat technical study of the group of acid-fast bacilli with reference to the serological reactions produced by the different chemical substances which are obtainable from them. He separated them into four substances which he considers to be the principal components, namely, albumen, fatty acid lipoids, neutral-fat and poison. The work seems to show that the first three of these may each produce a specific reaction and the facts demonstrated are likely to prove of great importance.

16. The conclusions of Crämer are as follows: that cecum mobile is not a disease in itself and requires no treatment; chronic appendicitis should never be spoken of as cecum mobile, which does not explain the condition; the diagnosis of "chronic appendicitis" requires revision for there is a chronic typhlitis without involvement of the appendix; cecum mobile is not rare and the diagnosis is difficult but possible; the treatment should be purely internal except in severe cases with many adhesions. [G. C. S.]

## WIENER KLINISCHE WOCHENSCHRIFT. No. 15.

APRIL 11, 1912.

1. PFEIFFER, H., AND ALBRECHT, O. *The Knowledge of the Toxicity of Human Urine in Various Disease Conditions.*
2. GLUZINSKI, A. *Further Observations on My Method for Recognizing the Character of Pyloric Stenosis with Reference to the Transition of Round Gastric Ulcer into Cancer.*
3. \*LIEBLEIN, V. *The Knowledge of Lymphatic Pseudo-Appendicitis.*
4. FAVENTO. *Prostatectomy.*
5. PLESCHNER, H. G. *A Case of Sarcoma of the Prostate.*
6. SCHWEEGER, O. *Intestinal Ulcers in Pernicious Anemia.*

3. Lieblein believes that there are cases which run the clinical course of acute or of chronic recurring appendicitis but in which the operative and histologic findings are normal. These cases occur in young persons of expressly lymphatic constitution, and the appendix shows great lymphatic hyperplasia. The author reports six cases of this type, which he terms lymphatic pseudo-appendicitis. [R. M. G.]

## REVUE DE MÉDECINE.

MARCH, 1912.

1. \*CHAUFFARD, A., AND RENDU, H. *A Case of Diabetic Eclampsia.*
2. MINET, J., AND LECLERQ, J. *Atypical Zoster.*
3. \*ROUBIER, C., AND BOUGET, H. *Pyopneumothorax in Pulmonary Syphilis.*
4. \*CLERC. *The Sickesses of Cardinal Richelieu.*

1. The authors report a case of diabetes presenting a fatal seizure resembling in all characteristics eclampsia. Uremia is excluded as a cause for this peculiar phenomenon. The brain and the spinal cord present no lesions, macroscopic or microscopic. The authors conclude that the convulsions resulting in coma and death are due to a toxic agent.

3. Roubier and Bouget report a single case of pyopneumothorax resulting from the rupture of the lung which has been for some period the seat of a distinct and extensive syphilitic pneumonitis.

4. Clerc, in a most interesting sketch of the life of Cardinal Richelieu, outlines the antecedents, youth, adult life and death of the great minister. Heredity shows a distinct tendency to tuberculosis. The frequent, and often severe and prolonged, febrile attacks are taken to be evidences of an infection with the bacillus of Koch. His perianal abscess is most suspicious of a similar origin. Lastly, the suppurative process of the arm is interpreted as a cold abscess dependant upon bone necrosis. The terminal infection is a pneumonia, complicated apparently by a pyothorax. This also is judged to be of tubercular origin. In a word, the minister is supposed to have been a prey to that infection all his life. [L. H. S.]

#### ANNALES DE L'INSTITUT PASTEUR.

FEB. 25, 1912.

1. NICOLLE, M., LOISEAU, G., AND FORGEOT, P. *The Toxic Factors of Bacteria.*
2. FORGEOT, P., AND CESARI, E. *New Procedures for Diagnosing Infections with Bacilli of Preisz-Nocard.*
3. \*COHENDY, M. *Experiments upon Life without Bacteria.*
4. LINTVAREY, I. I. *Intrasplenic and Intrahepatic Destruction of Red Blood Corpuscles in Normal and Pathological Conditions.*

3. Cohendy gives a brief review of the question of the relation of bacteria in the digestive tract to human life. He then describes his apparatus and experiments for the hatching and rearing of chicks under sterile conditions. As a result of his experimentations he concludes that life is possible without bacteria and that chicks hatched under such conditions may grow up successfully through the critical period of early life. On the other hand, he finds that these chicks do not take such good care of foodstuffs as normal chicks, which leads him to think that there is some good derived from some of our intestinal bacteria. [C. F., Jr.]

#### PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE.

MARCH, 1912.

1. MUSKENS, A. L. M. *An Experimental Study of the After-Effects of Chloroform.*
2. FREW, R. S. *The Significance of Acetonuria in Childhood.*
3. APPERLY, R. E. *Microscopical Specimens of Kidney and Liver from Cases of Post-Chloroform Poisoning.*
4. MCCARDIE, W. J. *Chloroform Toxemia in a Child to Whom Fat was Noxious.*
5. BERRY, D. *Notes of a Case of Post-Anesthetic Poisoning.*
6. TAYLOR, J. *Athetoid Movements.*
7. HUTCHISON, R. (a) *Paralysis of the Muscles of the Neck.* (b) *Hysterical Vomiting and Achylia.*
8. THURSFIELD, H. *Green Teeth.*
9. LANGMEAD, F. *Anomalous Jaundice.*
10. GUTHRIE, L. *Transposition of Viscera in a Girl.*
11. TORRENS, J. A. *Unusual Cardiac Bruit.*
12. WHIPHAM, T. R. (a) *Arthritis of the Shoulder and Hip.* (b) *Proliferative Osteo-Arthritis of the Hip.*
13. STEWARD, F. J. *Excision of Epithelioma of Lower End of Pharynx.*
14. LANGMEAD, F. *Anomalous Edema.*
15. WEBER, F. P. (a) *Diffuse Symmetrical Lipomatosis.* (b) *Osteitis Deformans with Chronic Eczema.*
16. STEBBING, G. F. *Persistent Nystagmus Associated with Periodical Vomiting.*
17. MACKENZIE, H., AND BATTLE, W. H. *Hirschsprung's Disease: Congenital Dislocation of the Colon.*
18. FRENCH, H. *Tabes Dorsalis, with One Knee-Jerk Absent and the Other Brisk.*

19. BATTLE, W. H. *Neurofibroma of the Supra-orbital Nerve in the Orbit.*
20. HARRIS, W., AND CLAYTON-GREENE, W. H. *Congenital Absence of the Left Half of the Diaphragm, Simulating Pneumothorax.*
21. DAVIS, H. *Extraordinary Pigmentation of the Face.*
22. DORE, S. E. *Small Linear Nevus on the Palm.*
23. LITTLE, E. G. G. *Two Cases of Alopecia Universalis.*
24. McDONAGH, J. E. R. *Leucoderma Syphilitica with Central Atrophy.*
25. MORRIS, M., AND DORE, S. E. *Cicatrizing Folliculitis of the Scalp.*
26. SEQUEIRA, J. H. *Alopecia Universalis, with Dystrophy of the Nails.*
27. WILLIAMS, A. W. *Morphea Guttata.*
28. UNNA, E. *The Practical Use of Eucerin as an Ointment Base.*
29. \*HERNAMAN-JOHNSON, F. *Secondary X-Radiations: Their Uses and Possibilities in Medicine.*
30. HAMPSON, W. *A Method of Reducing Excessive Frequency of the Heart Beat by Means of Rhythmic Muscle Contractions Electrically Provoked.*
31. \*DUFFIELD, R. *Diarrhea in 1911.*
32. TILLEY, H. (a) *Discrete Angioma of Nose.* (b) *Nasal Polypi and Pansinusitis.*
33. EVERIDGE, J. *Ulcerated Growth of the Larynx.*
34. PARKER, C. A. *Thyroid Tumor at the Base of the Tongue.*
35. KELSON, W. H. *Swelling in the Right Tonsillar Region.*
36. WYLIE, A. *Post-Influenzal Paralysis of the Soft Palate.*
37. HILL, W. *Palliative Action of Radium Salts in Malignant Stricture of the Gullet.*
38. DONELAN, J. *Growth on Anterior Third of Right Vocal Cord.*
39. HOPE, C. W. M. *Malignant Columnar-Celled Carcinoma of the Esophagus.*
40. PATTERSON, N. *Abeysance of Nasal Breathing.*
41. PETERS, E. A. (a) *Lateral Perforations of the Palate by a Tertiary Ulceration.* (b) *Tumor of Right Lateral Wall of the Pharynx Involving the Right Arytenoid.*
42. CATHCART, G. C. *Ulcer of the Floor of the Mouth.*
43. HETT, G. S. *Different Stages of Cystic Fibromata.*
44. GRANT, J. D. *Tonsillar Neoplasm in a Young Woman the Subject of Tuberculosis.*
45. HARRIS, W. *Two Cases of Spontaneous Hemorrhachis.*
46. \*GOLLA, F. L. *The Vestibule and the Perception of Space.*
47. PARSONS, J. I. (a) *Degenerating Uterine Fibroma.* (b) *A Fibromyomatous Uterus Removed for Pain Twenty Years after Apostoli's Treatment.*
48. COLWELL, H. A., AND GLENDINING, B. *The Presence of Blood Pigment in the Feces of the Newborn.*
49. GRIFFITH, W. S. A. (a) *A Rachitic Assimilation Pelvis.* (b) *Supravaginal Hysterectomy for Repeated Puerperal Melancholia.*
50. \*WESTERN, G. T. *The Treatment of Puerperal Septicemia with Bacterial Vaccines.*
51. TURNER, J. G. *Two Cases of Hypoplasia of Enamel.*
52. COLYER, J. F. *Radiographs of a Case of Advanced Periodontal Disease.*
53. \*JAMES, W. W., AND PITTS, A. T. *Some Notes on the Dates of Eruption in 4,850 Children.*
54. STURRIDGE, E. *Formation of Ions and Their Application in the Treatment of Periodontal Membrane.*
55. MILLIGAN, W. (a) *Severe Labyrinthine Vertigo.* (b) *Suppurative Labyrinthitis.*
56. JONES, H. E. *Operation on the Labyrinth for Non-Suppurative Vertigo.*
57. JENKINS, G. J. *Labyrinthine Vertigo.*
58. BIGGS, G. N. *Streptococcal Infection of Both Ears.*
59. WATSON-WILLIAMS, P. (a) *Thrombosis of the Right Lateral and of the Longitudinal Sinus.* (b) *Peri-Sinus Abscess and Lateral Sinus Thrombosis.*
60. \*KIRSCH, A. J. *Operation for Extreme Deafness.*
61. YEARSLEY, P. M. *Yankauer's New Speculum for Direct Examination of the Nasopharynx.*
62. KELSON, W. H. *Tuberculous Disease of the Temporal Bone.*



63. DAVIS, H. J. (a) *Solid Symmetrical Edema of Both Auricles.* (b) *Result of Perichondritis of Auricle.*
64. HORT, E. C., AND PENFOLD, W. J. *The Relation of Salvarsan Fever to Other Forms of Injection Fever.*
65. BEATTIE, J. M., AND HALL, A. J. (a) *Diffuse Neurofibromatosis.* (b) *Multiple Embolic Aneurysms of Pulmonary Arteries following Thrombosis of Veins of Leg.*
66. TREVOR, R. S. *Multiple Mycotic Aneurysms of the Branches of the Pulmonary Artery within the Lung.*
67. \*DUNHILL, T. P. *Partial Thyroidectomy under Local Anesthesia, with Special Reference to Exophthalmic Goitre.*
68. \*LATHAM, A. *The Uses of Tuberculin in Pulmonary Tuberculosis.*

29. Hernaman-Johnson discusses the possible therapeutic availability of secondary x-radiations, particularly the anadragic, pandragic and syndragic rays, with special reference to intensification. There is appended a table of substances likely to be of use in secondary ray therapeutics.

31. Dudfield presents an extensive statistical study of epidemic summer diarrhea in England in 1911, with careful tabulation and analysis. He concludes that the disease is highly infective and that its prevalence bears relation to the earth temperature because on the latter depends the hatching out of flies which transmit the infection.

46. Golla discusses Cyon's suggestion of the possible function of the vestibule in the perception of space, and endeavors to correlate his animal experiments with observations on man.

50. Western presents, analyzes and tabulates 100 septic puerperal cases treated with vaccines. He believes that the mortality of such cases may be reduced 30% by the intelligent application of this mode of treatment.

53. James and Pitts make an elaborate study of the date of eruption of the several teeth in 4,850 children, illustrated by graphic curves.

60. Kisch describes his operation of tympanoplasty for extreme deafness and tinnitus due to chronic adhesive catarrh of the middle ear.

67. Dunhill's article introduces a valuable discussion of thyroidectomy and exophthalmic goitre by Sir Victor Horsley, Dr. Hector Mackenzie, Dr. Albert Kocher, Dr. Dudley Buxton and others.

68. Latham, from a clinical and statistical study of several hundred cases, believes that the careful use of tuberculin in phthisis, in conjunction with sanatorium treatment, hastens the disappearance of tubercle bacilli from the sputum, and establishes a higher degree of immunity than any other method. [R. M. G.]

#### ZEITSCHRIFT FÜR KLINISCHE MEDIZIN.

BAND 74. HEFT 3-4.

1. KOHLER, R., AND PLAUT, M. *Experience with Rosenbach's Tuberculin.*
2. BEITZKE, H. *So-called Arthritis Deformans Atrophica.*
3. SAHLI, H. *Further Communications on Sphygmobolometry.*
4. \*GOLDSCHIEDER. *Cutaneous Sensibility.*
5. \*MOSLER, E. *Increase of Blood Pressure following Double Kidney Extirpation.*
6. WOLFF, H. *Influence of Meat Extractive on the Assimilation of Vegetable Food.*
7. \*EPPINGER, H., AND ARNSTEIN, A. *Pathogenesis of Polyneuritis.*
8. \*HELLENDALL, M. *Stimulation with Cold as a Means of Testing Arterial Efficiency.*
9. ZUNTZ, N. *Is There a Perceptible Intrapulmonary Oxygen Consumption?*
10. MEYER, E. *Observations on the Urine and Salt Excretion in Diabetes Insipidus.*

4. Goldscheider, an authority on cutaneous innervation, believes that Head's doctrine of double nerve distribution to the skin, giving epicritic and protopathic sensibilities respectively, is incorrect. He believes that the number and degree of development of a single system of cutaneous nerves determines the acuity of sensation.

5. Rabbits in which double nephrectomy had been performed showed forty-eight hours afterward an appreciable increase in blood pressure not shown by controls. This

result is used as argument against (1) the mechanical cause of increased blood pressure in nephritis, for by the conditions of the experiment resistance to circulation is diminished and yet the pressure rises; (2) also the cause of hypertension as due to toxic products produced by an altered kidney, as no kidney substance remains.

7. A series of five cases of polyneuritis are given, all of which showed decided disturbance of liver function, and cirrhosis in the two coming to autopsy. From experiments on animals the authors know that fluorescent substances are toxic to pale-skinned animals. Urobilin belongs to the fluorescent group and may well be toxic to the human nervous system. Urobilin was found plentifully in all of these cases. The authors feel that it is perhaps by disturbing of liver function that the various well-known agents, lead, arsenic, alcohol, etc., causative of polyneuritis, act.

8. The author reports a clever, but hardly a simple method, designed to indicate the extent of arterial hardening in a peripheral vessel. With hand in a plethysmographic chamber connected with a kymograph, ice is placed at the elbow for thirty seconds and variations in the plethysmographic tracing noted. Diminutions in the blood supply to the hand were observed in every case (except one, a case of Raynaud's disease); but the variation was evidently not commensurate with the amount of arteriosclerosis present, psychic influence being an important factor. [J. B. A.]

#### Obituary.

##### AUGUSTUS PECK CLARKE, M.D.

DR. AUGUSTUS PECK CLARKE, who died on April 22, in Cambridge, Mass., was born at Pawtucket, R. I., in 1833. He received the degrees of A.B. and A.M. from Brown University in 1861, and that of M.D. from the Harvard Medical School in 1862. He was immediately appointed assistant-surgeon of the Sixth New York Cavalry, with which he served throughout the Civil War, becoming surgeon-in-chief of Sheridan's First Cavalry Division and being later brevetted lieutenant-colonel in the Army of the Potomac for conspicuous courage and fidelity. After the close of the war he traveled abroad for a year, then settled in the practice of his profession in Cambridge, where he continued in active work until his retirement in 1908.

Dr. Clarke was a Fellow of The Massachusetts Medical Society, a member of the American Academy of Medicine, of the American Public Health Association and of the American Medical Association, and was vice-president of the latter organization in 1895-96. He was a member of the American Association of Obstetricians and Gynecologists, and from 1881 to 1892 was president of the Gynecological Society of Boston. He was a founder of the Cambridge Medical Improvement Society, and a member of the Boston Medical Library. From 1894 to 1900 he was professor of gynecologic and abdominal surgery and dean of the Boston College of Physicians and Surgeons.

In 1890 Dr. Clarke was a delegate to the annual meeting of the British Medical Association, and in 1897 was honorary president of the section of obstetrics and gynecology of the Twelfth International Conference of Medicine at Moscow, Russia. He had traveled widely and had many social and political interests besides those of his profession. He is survived by two daughters, both physicians.

### Miscellany.

#### REMARKS BY DR. F. C. SHATTUCK AT THE DINNER TO EMERITUS PROFESSORS OF THE HARVARD MEDICAL SCHOOL.

MR. PRESIDENT, Mr. Toastmaster, and, still for a short span, fellow members of the Teaching Staff: Hitherto resignations have been scattering, if not infrequent, and followed by a simple, though dignified, funeral. Not knowing how soon again plural resignations may occur, it is your pleasure to hold an ante-mortem wake, as it were. Old Thomas Fuller in his "Holy and Profane State" tells us that the good physician "when he can keep life no longer in, he makes a fair and easy passage for it to go out. He giveth his attendance for the facilitating and assuaging of the pains and agonies of death." Thus are you all, good physicians, and we, your patients, are very, very grateful. We are fain, like St. Paul, to die daily and for an indefinite period, so deftly do you smooth our pillows, and with such kindly eyes and flattering words do you lull us into sleep. Sleep did I say? Is it sleep that awaits us? What is it? What does *emeritus* mean? A friend, with more levity than Latinity, translates it as "played out." Is not "worked out" a more tactful rendering? Is either the true translation for us? We trust not. *Emeritus* is no new drug or operation. It has been long in use. What is its effect?

Your present experiment differs from others only that you try it on four at once instead of singly. Surely when we look at the band of *Emeriti* who honor us with their presence this evening, may we not take heart of cheer? Do they show any least sign of being either played or worked out? Do they look as if they were in purgatory? One does not need to instil drops of faith into his eye to see their aureoles, which suggest that having been freed from the burden of responsibility they are in joy and felicity; that, like Elijah, they are translated. Does that not warrant me, and those for whom it is my great privilege to speak, to hope that aureoles await us also, well-fitting, however small in comparison with theirs, like unto picture hats for size and radiance? Translated, like Elijah! Some of you may have never heard of Elijah. If such there be, another metaphor will be clear to those. Perhaps *Emeriti* may be compared to graduate football players, who have the privilege of the side lines, from which, with the keenest interest, they can watch the great game and contribute something through their sympathy and applause. Was the game of medical education ever more entrancing than it is to-day, especially in this country relatively unhampered by tradition, and of unlimited possibilities? Was the Harvard team ever so strong, so well furnished with men and resources? Were its friends ever so justifiably confident of the future? I trow not.

It was, I think, in 1898 that an informal meeting was held at Dr. Warren's house, and there he and Bowditch, whose spirit watches over and abides with us, unfolded their prophetic dream.

They saw this spot with its beautiful and ample school buildings, set about, as it soon will be, by a group of affiliated institutions for the relief, study and the prevention of disease. I, doubting Thomas that I was, confess to having classed them as general paretics, typical megalomaniacs. Rarely have the visions of youth and the dreams of age been so united, so fully and quickly realized in fact. May we not read a deep meaning into the fact that the court of the school buildings is opened to the east, and, through the Avenue Louis Pasteur, is flooded by the rays of the rising sun? Visitors have admired the laboratories and museum and their housing; but, not wholly unnaturally, have wondered, Where are the sick? They could scarcely be expected to realize the truth that even at the present day the clinical facilities of the Harvard Medical School are unrivalled in this country. The contracts for the new Children's Hospital are signed, ground is breaking, and within two years we shall see the whole twenty-two acres of the original purchase actively serving the purpose for which it was secured. The Peter Bent Brigham Hospital, the Infants' Hospital, the Children's Hospital, the Collis P. Huntington Memorial Hospital and the Nutrition Laboratory of the Carnegie Institution of Washington are levers of human uplift. Immediately adjoining are the House of the Good Samaritan, the Dental School, a monument to the devotion and chronic self-denial of its faculty; and it is whispered that an animal hospital may come in the immediate neighborhood. The possibilities of a real graduate school under Dean Arnold, whose energy is notorious, and whose fitness we believe already proved, loom large.

So much for the plant, for the guns. He who stands may see them. As for the men behind the guns, one needs but scant knowledge of the history of our school and a glance around these tables for an unerring prognosis. What department chief has not been uplifted by the none less inspiring, because unconscious, devotion of his younger co-workers? Never have the sources of inspiration been so overflowing as they are to-day. The irrigating channels are well laid; the ground is ready; the laborers are keen and skilled; the crop is assured.

*Emerituri, te Praesidem dilectissimum, et vos Collegos fautores, salutamus.*

#### COMPLEXION, SUSCEPTIBILITY AND IMMUNITY TO INFECTION.

IN an article in a recent issue of *Biometrika*, Dr. David Macdonald discusses the question of the relation of complexion to susceptibility and immunity to various infections. This discussion is based on a study of school children in Glasgow and elsewhere in Scotland, with special reference to their liability to scarlet fever, diphtheria, measles and pertussis. The population considered is pretty homogenous and should afford a reliable means of comparison.

The various shades of hair adopted for classification are black, dark, medium, fair and red; and of eyes, dark, medium, light and blue. The conclusions with regard to resistance and recuperative power favor the darker complexions.

"The dark-haired and jet-black-haired child has higher recuperative power than the red-haired and much more so than the fair-haired child. The medium-haired child occupies an intermediate position as regards recuperative power. The medium-eyed and dark-eyed child has higher recuperative power than the light-eyed and blue-eyed child. Combining the hair and eye colors it is found that the dark-haired, dark-eyed child has considerable more recuperative power than the light-haired, light-eyed child. The medium-haired, medium-eyed child occupies an intermediate place as regards recuperative power. In the various gradations between the extreme dark and extreme light types, the closer the type approximates to fair, the less recuperative power it has and the less resistance it offers."

With regard to liability of infection the dark-haired and blue-eyed children seem to occupy the best position.

"The medium-haired child is more likely to become infected than the red-haired and much more so than the dark-haired or black-haired child. The fair-haired child occupies an intermediate position as regards infection. The medium-eyed child is more liable to become infected than the dark-eyed and much more so than the blue-eyed child. The light-eyed child occupies an intermediate position as regards infection. The light-eyed child appears to be more susceptible to diphtheria and whooping cough than to scarlet fever and measles."

With regard to the probable bearing of these facts on persistence of type, Dr. Macdonald says:

"The medium-haired class is undoubtedly selected both for handicap by its greater number of severe cases with subsequent disability, and for extermination by its greater number of deaths. The jet-black and dark-haired class is least selected for such handicap and extermination, while the fair-haired class is selected rather more and the red-haired class rather less than their proportion in the general population. The medium-eyed class is undoubtedly selected both for handicap by its greater number of severe cases with subsequent disability and for extermination by its greater number of deaths. The light-eyed class is next in order adversely selected, the dark-eyed class less so and the blue-eyed class least of all."

Whatever the facts of his statistics, it seems probable that Dr. Macdonald tries to make them prove too much. Biologically the medium-haired and medium-eyed type, representing a mixture of more extreme grades by natural selection, should in time also develop a higher immunity to all infections.

## EUGENICS AND SELF-CULTURE.

IN a recent paper on eugenics before the London Sociologic Society, Dr. C. W. Saleeby is quoted as saying:

"The scientific basis of eugenics is rapidly changing. Every biologist knows that the Darwinian theory of natural selection does not stand where it did, and with it has gone the scientific basis of what, with convenient ambiguity, may be called the 'better dead' school of eugenisists, the Nietzscheans or Herodians of the mathematico-physical school. In pure genetics we now must follow Bateson, and in the philosophy of eugenics we must build upon the positions won by Lamarck a century ago and Bergson to-day.

"The practical problem is correspondingly modified. Eugenics, which is essentially concern for parenthood, must care for parents and possible parents. It must protect parenthood, and thus the race, from the individual diseases which vitiate the germ-plasm, from what we have here called the 'racial poisons,' and the consequent 'blastophthoria' of Forel. This business is called 'preventive eugenics.'

"National insurance does not involve positive eugenics, at least in its post-Galtonian form of class eugenics. But if the 'best' classes lower their birth-rate, are they therein, or at all, proved the best? The eugenics which allies itself with any social class has no future. We need the help of the few wise and kind from all classes to save democracy from itself."

Perhaps Dr. Saleeby is justified in taking eugenics and himself so very seriously. Perhaps natural methods can still in some measure be trusted to work out human evolution, if not salvation. There is something in the eugenic attitude that might justify the remark in a recent newspaper editorial on "making marriage difficult":

"It often seems to us that too much time is consumed in reforming, uplifting and meddling with other people, which could be better employed in the way of self-culture."

## ENGLISH MEDICAL TERMS OF GREEK ORIGIN.

IN a recently published "Criticism of Stedman's New Medical Dictionary," Dr. John A. Phonstanos, of New York, severely arraigns the editor of that work for lexicographic inaccuracies in the derivation and spelling of many medical terms of Greek origin. Technically the critic is probably right, but his position as regards the English orthography of Greek derivations is practically unutterable. The spelling and pronunciation "leukokyte," for instance, may be correct but are humanly impossible. The English language is as marvelous and polyglot a democracy as the people who speak it, and like them is not bound by laws of logic. Rules of etymology have never been uniformly followed in its adoption of foreign words; and had they been, philology would

have assumed the accuracy of mathematics and would have lost half its charm. There are times when to be logical is to be inconsistent, and it was the higher linguistic consistency and expediency which Dr. Stedman followed and which should prevail, even in the field of scientific terminology.

### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, APRIL 20, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	8	1
Chicago.....	—	—	Waltham.....	10	1
Philadelphia.....	—	—	Brookline.....	10	5
St. Louis.....	—	—	Chicopee.....	4	—
Baltimore.....	—	—	Gloucester.....	2	—
Cleveland.....	—	—	Medford.....	2	—
Buffalo.....	—	—	North Adams.....	4	—
Pittsburg.....	—	—	Northampton.....	4	—
Cincinnati.....	—	—	Beverly.....	3	—
Milwaukee.....	—	—	Revere.....	—	—
Washington.....	—	—	Leominster.....	7	—
Providence.....	—	—	Attleboro.....	9	—
Boston.....	259	66	Westfield.....	—	—
Worcester.....	40	9	Peabody.....	—	—
Fall River.....	37	15	Melrose.....	—	—
Lowell.....	40	13	Woburn.....	2	1
Cambridge.....	28	10	Newburyport.....	4	1
New Bedford.....	35	10	Gardner.....	—	—
Lynn.....	—	—	Marlboro.....	—	—
Springfield.....	—	—	Clinton.....	4	—
Lawrence.....	28	8	Milford.....	—	—
Somerville.....	16	5	Adams.....	—	—
Holyoke.....	19	7	Frammingham.....	—	—
Brookton.....	18	7	Weymouth.....	—	—
Malden.....	—	—	Watertown.....	2	—
Haverhill.....	15	8	Southbridge.....	4	2
Salem.....	—	—	Plymouth.....	—	—
Newton.....	18	2	Webster.....	2	1
Fitchburg.....	—	—	Methuen.....	1	1
Taunton.....	15	4	Wakefield.....	—	—
Everett.....	7	—	Arlington.....	5	—
Quincy.....	—	—	Greenfield.....	5	—
Chelsea.....	12	2	Winthrop.....	6	1

### CENSORS' EXAMINATION.

THE Censors of the Suffolk District Medical Society will meet to examine candidates for admission to The Massachusetts Medical Society, at 8 The Fenway, on Thursday, May 9, 1912, at 2 P.M. Candidates, who must be residents of the Suffolk District, or non-residents of Massachusetts, should make personal application to the Secretary, and present their medical diplomas, at least three days before the examination. For further particulars, apply between 2 and 3 P.M., to

WALTER C. HOWE, *Secretary*,  
303 Beacon St.

### EXAMINATION.

BULLETIN No. 848 of the United States Civil Service Commission, issued on April 20, announces an examination on June 5, 1912, "to secure eligibles from which to make certification to fill two or more vacancies in the position of medical interne, Government Hospital for the Insane, Washington, D. C., at \$600 per annum, with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital, unless it is found to be in the interest of the service to fill such vacancies by re-instatement, transfer, or promotion. The positions are tenable for one year, and pay \$50 a month and maintenance. At the end of six months, however, during which time a post-graduate course in mental and neurological diagnostic methods, etc., is given, an examination is held, and promotions to the next grade, assistant physician, at \$75 a month and maintenance, are made. Beyond this there is regular advancement for men whose services are satisfactory. The Government Hospital for the Insane has over 2,900 patients and about 750 employees to care for. In addition to the general medical practice offered, the scientific opportunities are excellent and the clinical opportunities in neurology and psychiatry are unsurpassed. As considerable difficulty has been

experienced in filling vacancies in the position of medical interne in the Hospital Service during the past several years, owing to the limited number of eligibles available, qualified persons are urged to enter this examination."

### SOCIETY NOTICE.

HARVARD MEDICAL ALUMNI ASSOCIATION. — The triennial dinner of the Harvard Medical Alumni Association will be held at the Hotel Somerset, Boston, on Wednesday, May 22, at 7 o'clock. There will be addresses by President Lowell, by the new deans of the Harvard Medical School and of the Harvard Graduate School of Medicine, and by other men of distinction. All graduates of the Harvard Medical School are cordially invited to be present. Price of tickets, \$3 each. On the afternoon of Wednesday, there will be demonstrations and an exhibition of new hospitals at the Medical School.

### RECENT DEATHS.

DR. FRANCIS BACON, who died on April 26 at New Haven, Conn., was born in 1831. He graduated from the Yale Medical School in 1852, and immediately went to Galveston, Tex., where yellow fever was epidemic. He himself caught the infection. During the Civil War he served as surgeon of the Second and later of the Seventh Connecticut Regiment. He became medical director of the Army of the Potomac, and was subsequently medical director of the Department of the Gulf. At the close of the war he settled in New Haven, and from 1865 to 1877 was professor of surgery at the Yale Medical School. He was a widower and childless.

DR. DANIEL KIMBALL PEARSONS, who died of pneumonia on April 27, at Hinsdale, Ill., was born in Bradford, Vt., on April 14, 1820. After spending a year at Dartmouth College, he studied medicine at Woodstock, Vt., then practiced for a time at Chicopee and at Jamesville, Mass. In 1860 he gave up his profession and settled in Chicago, where in twenty years he made a fortune of several millions in the lumber business and in real estate. His entire wealth, however, he gave away before his death, chiefly to educational institutions. It is related of him that he renounced the use of tobacco at the age of ninety-one.

DR. JULIUS SPITZ, who died last week in Boston, was born in Posen, Prussia, on Aug. 4, 1822. He studied medicine at Giessen, and from 1840 to 1844 practiced in his native town. He came to the United States in 1844. He is survived by three daughters and six sons.

DR. JOHN NEILSON BECKMAN, a retired New York physician, who was graduated from the College of Physicians and Surgeons in 1868, died on April 26. Dr. Beckman belonged to an old New York family, and his wife was a sister of the late Dr. Benjamin F. Dawson, who was lecturer on uterine pathology in the Medical Department of the University of New York and who edited the American edition of Barnes' "Obstetric Operations."

DR. SAMUEL OAKLEY VAN DER POEL, a prominent physician of New York, died suddenly on April 22. He was born in Albany, N. Y., in 1853, and came of an old Dutch family, in which both his grandfathers, his father, and two uncles were members of the medical profession. His father, the late S. Oakley Van der Poel, M.D., LL.D., was an eminent physician of Albany, and for several years Health Officer of the Port of New York. Dr. Van der Poel, the son, was graduated from Rutgers College, New Brunswick, in 1878 and from the College of Physicians and Surgeons, New York, after which he served as interne at Bellevue Hospital. He then took a post-graduate course of study in Vienna and on his return began practice in Albany, where he was appointed adjunct professor of theory and practice in the Albany Medical College, at the same time receiving an honorary M.D. from the college. He removed to New York in 1885, and later was appointed visiting physician at Randall's Island and Charity Hospital, on Blackwell's Island. He also served as assistant surgeon to the Manhattan Eye, Ear and Throat Hospital and in the Throat Department of the Vanderbilt Clinic. Dr. Van der Poel was for fourteen years senior medical director of the New York Life Insurance Company, and in 1899 was president of the Medical Society of the County of New York. His brother, Dr. John Van der Poel, of New York, is a well-known genito-urinary surgeon.

DR. ARNATT READING GULICK, of Perth Amboy, N. J., died on April 24 at the Jefferson Medical College Hospital, Philadelphia, from empyema and other conditions from which he had been suffering for some time. He was graduated from Bellevue Hospital Medical College in 1888, and practiced in New York until two years ago, when he removed to Perth Amboy. Dr. Gulick, while characterized by much modesty of disposition, was known among his friends as among the best-informed men in the profession. For many years it had been his custom to make careful note of all real advances in therapeutics, and he kept this knowledge so systematically arranged that he was at all times in a position to make use of it in his practical work. One of his surviving brothers is Dr. Charlton R. Gulick, of New York.

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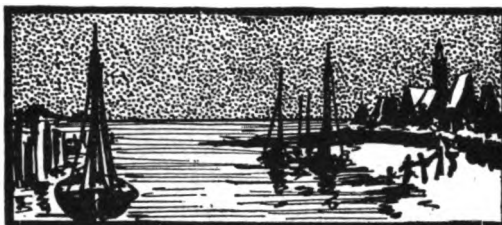
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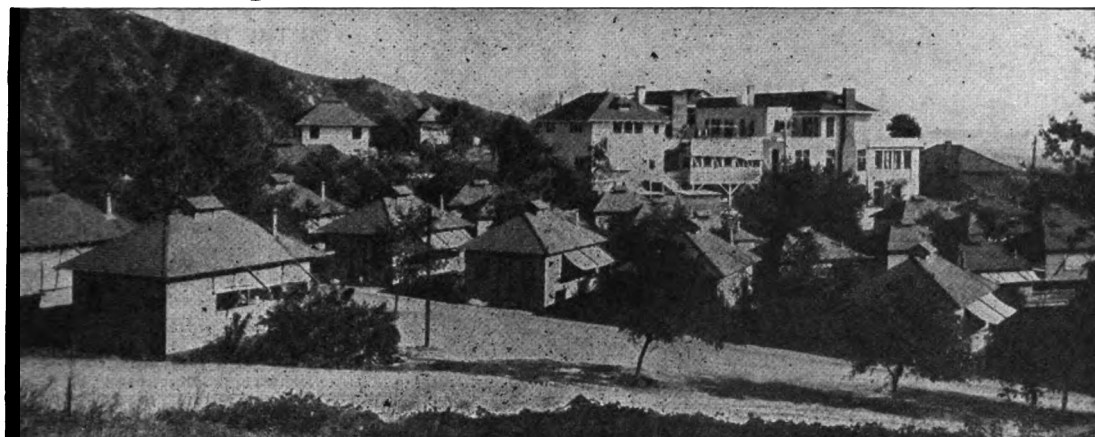
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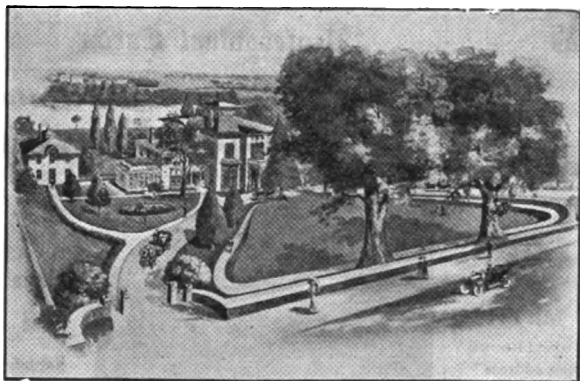
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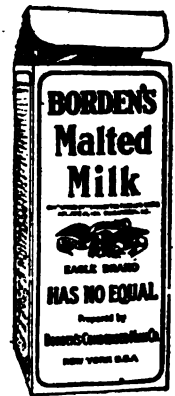
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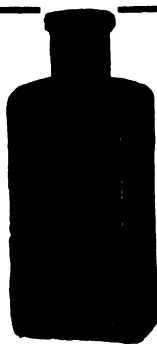
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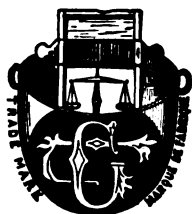
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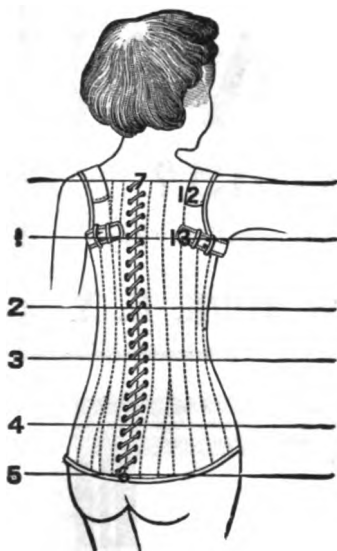
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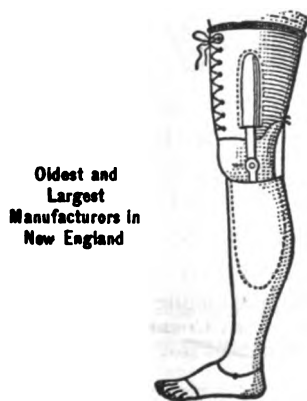
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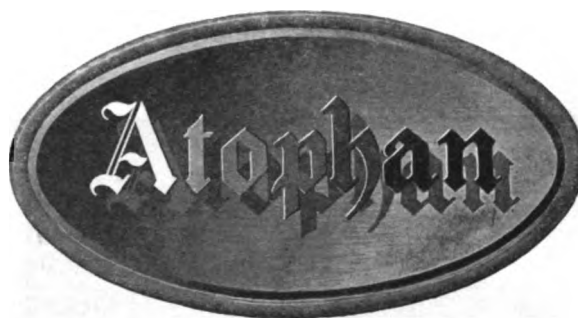
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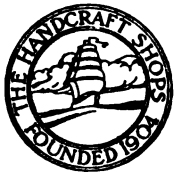
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(Concluded from No. 18, p. 658.)

2. In surgery let me instance the surgery of the chest. This has been the region in which progress has lagged far behind that of all the other parts of the body till within the last five or six years. The reason was that the moment you opened the chest cavity to get at the heart, the lungs, the esophagus, the aorta or the pleura, it was like making an opening in the side of a bellows. The air, instead of being drawn in and forced out through the nozzle (corresponding to the mouth in the case of a patient), passed in and out through the opening in the side of the bellows or the chest. If only one side was opened, breathing was embarrassed, if both sides were opened the patient's lungs collapsed, — breathing was impossible and death ensued.

Sauerbruch, then of Breslau, first devised a large air-tight box or chamber in which the pressure of the air could be increased or diminished at will. The body of the patient, the surgeons, nurses and instruments were all inside the box, and a telephone enabled them to give directions to those outside, especially to the etherizer. The head of the patient with an air-tight collar around his neck protruded outside of the chamber where the etherizer was placed. In such a chamber the chest could be safely opened. But while this was an immense improvement, such a chamber is clumsy, not easily transportable, and is very expensive. The method has done good service, however. It has been improved by others and is in use to-day by many surgeons.

At the Rockefeller Institute, Meltzer and Auer, by a number of experiments on animals, have lately developed a new, simple and safe method of anesthesia with ether which is revolutionizing the surgery of the chest and to a considerable extent may even displace the ordinary inhalation method of anesthesia. As soon as the patient has been etherized in the ordinary way, a rubber tube is inserted into the windpipe through the mouth. By a foot bellows ether-laden air is pumped into the lungs through this tube, the foul breath escaping between the tube and the windpipe and out through the mouth. Experiments on animals showed that the rubber tube used for so long a time would not injure the vocal cords and so alter or destroy the voice of a patient, nor cause injury to the lungs, and that the method was most efficacious in the surgery of the chest.

I saw Carrel thus keep a dog under ether for about an hour and a half; open both sides of the chest by one wide sweep of the knife, displace the heart and lungs this way or that; expose and divide the aorta between two clamps (to prevent immediate fatal hemorrhage); do a tedious and difficult operation on the aorta; unite its two cut ends; replace the heart and lungs, and

close the wound. An hour later the dog, which showed no evidences of suffering, was breathing naturally, and in time recovered entirely. What this method means in injuries and diseases of the heart, in gangrene, abscess and tumors of the lungs, in cancer of the esophagus, and foreign bodies lodged in the esophagus or in the bronchial tubes, and in diseases of the aorta, one can hardly yet even imagine.

These experiments have done more for the surgery of the chest in three or four years than all the "clinical observation" of cases in a thousand years. The method has already been tried successfully in several hundreds of cases in man, and the future has in store for us a new and most beneficent chapter in the surgery of the chest.

Yet if the antivivisectionists had prevailed all these experiments would have been prevented, the doors of the Rockefeller Institute nailed up, and men, women and children have been deprived of the benefits of these splendid discoveries. Call you not that intensely cruel?

Moreover, these very same people in their own households and without the slightest pity will kill rats and mice by turning them over to the tender mercies of cats, by drowning them, by strangling them in traps, by poisoning them with strychnin or phosphorus, or by any other means of "torture"; but they hold up their hands in holy horror when any proposal is made to terminate the lives of other rats and mice almost always without pain and with immense benefit to humanity. They are cruel and callous to human suffering so long as dogs and cats, mice and guinea pigs escape! And yet, as I have shown, only 26 animals in 1,000 can possibly ever suffer at all!

III. The third way in which the influence of antivivisection injures character is by diminishing the reverence for accuracy. In the *Journal of the American Medical Association* for Feb. 23, 1901, I gave many instances of the "Mis-statements of the Antivivisectionists." These mis-statements were contained in two anonymous pamphlets, and I have two more similar publications which are also anonymous. I have before me also three publications purporting to be replies to that publication of mine, all again anonymous. Is a foe who attacks from ambush worthy of the respect and confidence of the public?

These mis-statements, so far as I know, are still distributed in leaflets and pamphlets without correction nearly eleven years after their incorrectness was shown. In fact, several of them reappear uncorrected in the *Journal of Zoöphyly* for July, 1911.

Let me give a few new instances.

The most prominent antivivisectionist in England is Mr. Stephen Coleridge. On page 183 (April to July, 1907) in the minutes of his evidence before the Royal Commission on Vivisection, I find the following:

"Question 10952: We may have inspection, but still we may ask a person of character when he saw the experiment what his opinion of it was. Will you not accept that?"

"Answer: Certainly not, because I think that all these experimenters have the greatest contempt for the Act of Parliament. They would deny a breach of this act just as I should deny a breach of the Motor Car Act. I drive a motor car and *when I go beyond the speed limit and the policeman asks me I say, 'No, I am not going beyond the speed limit.'* [Italics mine.] Nothing would keep me from going beyond the speed limit except the presence of a policeman in the car; and nothing will keep the experimenter within the four corners of the act except an inspector in the laboratory.

"Question 10953: Surely, if you were asked about the speed limit and gave your word that you had not exceeded it, you would not expect to be disbelieved?

"Answer: No, I do not say so. I said last year that of course I did, and I exceed it every time.

"Question 10954: You are apparently not very ethical about motor cars. If you apply your principles as regards motoring to the physiologists, you have very little to say against them?

"Answer: What I have to say is that they regard the Vivisection Act of 1876 with the same contempt that I regard the Motor Car Act as regards the speed limit."

In quoting also a letter from the Home Office Mr. Coleridge admits mutilating it, for in reply to Question 11015, he says, "I seem to have left out the important item of it." See also Questions 10301, 11011, 11024 and 19967 to 19973.

Comment upon Mr. Coleridge's testimony is superfluous.

Again, in the "Black Art of Vivisection," Mr. Coleridge states, "The Pasteur Institutes in Paris and elsewhere have entirely failed to prevent people dying of hydrophobia." Yet the fact is that formerly 12 to 14% of persons bitten developed the disease and every one of them died, whereas the result of the Pasteur treatment in 55,000 cases has diminished the mortality to  $\frac{1}{100}$  of 1% of those bitten.

I cite another English instance. In "The Nine Circles," second edition, pp. xxiii-xxviii, is published a reply to a letter by Sir Victor (then Mr.) Horsley, published in the *London Times*, Oct. 25, 1892, a copy of which I have before me. The book, as the *London Times* points out in an editorial, was

"Compiled under his [Dr. Berdoe's] direction. He was entrusted with the task of reading the proofs and was supposed to safeguard the accuracy of 'the compiler.' He now admits that he overlooked in Miss Cobbe's preface a passage in which she 'was careful to say, . . . so far as it has been possible, the use or absence of anesthetics has been noticed in regard to all the experiments cited in this book.' Mr. Horsley in the appendix to his letter, which we publish this morning, shows by reference to some twenty cases cited in 'The Nine Circles' how entirely inconsistent with the truth this guarantee is, and Dr. Berdoe's reluctant acknowledgment completes the proof."

A still more remarkable letter appears in the same number of the *Times* from Prof. C. S. Sherrington, of Liverpool. He says, "I find in the book ['Nine Circles'] three instances in

which I am by name and deed held up to public abhorrence. From each of the three statements made about me the employment of anesthesia in my experiments is studiously omitted, although expressly mentioned in each of the published papers on which those statements are professed to rest. In two out of the three statements I am accredited with inflicting upon living animals, and without the employment of anesthetics, a dissection and procedure that I *pursued only upon animals which were dead.*"

Accordingly the society withdrew the book from the market, but later published a revised second edition.

In his reply to Professor Horsley's letter calling attention to the mis-statements in the first edition, the excuses that Dr. Berdoe gives in the second edition are very extraordinary. Among them, for example, one is "the sentence about testing the sight after recovery from the anesthetic was overlooked."

Another excuse is "this was taken at second hand from another report where the question of pain was not under discussion." In a third he states, "We have not always access to 'original papers' and can only rely on such reports and extracts as are given in the medical and other journals."

I ask whether it is fair, square dealing to base grave charges of cruelty on sentences "overlooked" and on "second-hand" misinformation?

But Miss Cobbe was by no means satisfied with misrepresenting English medical men. In the pamphlet "Vivisection in America," I find on page 9 a letter by a Boston lawyer in which he says of American experiments, "In other words, animals are dissected alive, *usually without the use of anesthetics*, for the supposed (but illusory) gain to science." [Italics mine.] I have already given a table showing that only 26 animals out of 1,000 could by any possibility have suffered any pain, and that even these were anesthetized. Is it correct, then, to say that animals are "dissected alive usually without anesthetics"?

Near the top of page 45 Miss Cobbe's pamphlet reads as follows: "Dr. Ott, in the *Journal of Physiology*, Vol. II, p. 42, describes a number of experiments upon a number of cats *not etherized* [italics my own] for the purpose of making observations on the physiology of the spinal cord."

I find that on reading the original paper there were four series of experiments:

In the first series, there were twenty experiments. In the first experiment the animal was killed before the experiment began. In eleven other instances it is expressly stated in each experiment that the animals *were* etherized. Dr. Ott informs me that the other eight were so etherized and that he invariably etherizes the animals.

In the second series there were eight experiments. On page 52 of the *Journal of Physiology* it is stated that the animals *were* etherized.

The third series consisted of ten experiments, and on page 54 it is expressly stated that the animals *were* etherized.

The fourth series consisted of ten experiments and again on page 60 it is stated that the animals were etherized. We see, therefore, that Miss Cobbe's statement "not etherized" is untrue, for of 48 animals, one was killed; in 39 it is expressly stated that they were etherized; leaving only 8 out of 40 as to the etherization of which nothing is said, though it was done.

On pages 45 to 48 I find a series of experiments on the surgery of the pancreas by the late Dr. Senn, of Chicago. This was in July, 1886, at a time when the surgery of the pancreas was just beginning. Two pages and a half of Miss Cobbe's pamphlet are devoted to describing in detail experiments which, as no mention is made in her pamphlet of ether, one would certainly suppose were done without ether and would certainly be very painful. On looking at page 142 of the original paper I find that it is expressly stated that the animals were etherized.

In a series of experiments by Halsted, under experiment No. 6, p. 51, Miss Cobbe's pamphlet says, "Died under the operation, which was carried on for two hours on a young, small brindle dog," which would imply two hours of "agony." The original expressly states the fact that this dog died from the effects of the ether.

So much for Miss Cobbe's idea of reproducing accurate accounts of the experiments to which she refers.

An amusing instance of misrepresentation is seen in an antivivisection comment made on one of Carrel's experiments on a cat. "How intense the suffering must have been to cause a cat (an animal usually so quiet and reposeful) to spend the day jumping on and off the furniture!" As a matter of fact, the kitten was only "playing with a ball of paper."

Another illustration of the way in which sentences are detached from their context and made to mean quite different things and repeatedly published years after the falsity of the statement has been demonstrated is shown by the constant inclusion of Sir Frederick Treves among the opponents of vivisection. He stated of one single investigation that operations on the intestines of dogs in his opinion — other surgeons do not hold the same opinion — were useless as a means of fitting the surgeon for operations upon the human bowel. Ever since this utterance (*Lancet*, Nov. 5, 1898), Sir Frederick Treves has been constantly quoted in the manner mentioned, yet in a letter to the London *Times* of April 18, 1902, he says, "The fallacy of vivisection can hardly be said to be established by the failure of a series of operations dealing with one small branch of practical surgery. No one is more keenly aware than I am of the great benefits conferred upon suffering humanity by certain researches carried out by means of vivisection." This was noticed editorially in the *British Medical Journal* of April 26, 1902. So late as 1909, in the May number of the *Journal of Zoöphily*, the editor-in-chief, Mrs. Caroline Earle White, reprints from the *North American* of April 12, 1909, her signed letter, and implies that Sir Frederick Treves is an

opponent of vivisection, seven years after this correction had appeared. In the number of the same journal for July, 1909, the associate editor of the journal prints a letter of denial from Sir Frederick Treves, and yet so late as the number for March, 1911, p. 177, the same old quotation from Sir Frederick Treves is published in the same journal which twenty-two months before had printed his own letter of denial.<sup>3</sup>

In the *British Medical Journal* of July 8, 1911, p. 82, will be found a speech by Sir Frederick Treves at the annual meeting of the Research Defence Society in which, alluding to the great progress made in the science of medicine, he says, "This progress has in the main been accomplished by experiments on animals." Ought not his name hereafter to be omitted from the list of the opponents of vivisection?

A postal card issued by the American Antivivisection Society in Philadelphia (there are several others of the same sort) presents a picture of a large dog with his mouth gagged wide open and his paws tied "without anesthetic." The object of the gag, of course, is to prevent the animal from biting before and while it is being etherized. It is absurd to state that this produces any pain, but a guide at the traveling antivivisection exhibition explained to two of my friends that it was used to *break the jaws of the dogs!* and that this was done "without anesthetics." But in nearly all our surgical operations within the mouth, on the tonsils, cleft palate, the tongue, etc., we employ gags of various kinds to keep the mouth wide open. To show how little annoyance this causes, here is a picture of a little girl, four years old, my own granddaughter, with a mouth gag which I have used many times over with children and adults in operations about the mouth. This particular photograph, it will be observed, was taken also "without an anesthetic." It was not necessary to tie her hands and feet as is done with dogs, for the child regarded the whole proceeding of photographing her with her mouth wide open as a "lark," and sat as still as a mouse. Is it necessary to add that her jaw was not broken?

Miss Britton, in her \$300 antivivisection prize essay (*Our Dumb Animals*, January, 1910) vividly describes an operation (removal of the breasts of a nursing mother dog) which was *never done at all*. This fictitious operation is described in the "Nine Circles" (second edition, p. xxviii); again it appears in Dr. Albert Leffingwell's essay, "Is Science Advanced by Deceit," published in 1900. In 1901 Professor Bowditch called Dr. Leffingwell's attention to the fact that no such operation was ever done. In Dr. Leffingwell's collected essays entitled "The Vivisection Question," on page 169 of the second revised edition (1907), there is, in a footnote, a correction admitting that no such operation was ever done, but on page 67 of the same edition, a description of this same operation still

<sup>3</sup> Just as I had corrected the proof of this paper, April 29, 1912, Mrs. Caroline Earle White has sent me by mail a reprint of her letter of April 12, 1909, with the same misleading quotation, thirty-three months after Sir Frederick Treves' letter of denial had been printed in her own journal.

appears uncorrected, six years after Bowditch's letter had been received and the mis-statement acknowledged.



In the Antivivisection Exhibit which was shown in New York, in the winter of 1909-10, Professor Lee states that there was "an oven heated by gas burners which contains the stuffed body of a rabbit and which the attendant tells you is used for the purpose of baking live animals to death, and this also is performed without anesthetics." Then to add still further pathos, the note at the end of the label on the oven said "gagging, muffling or severing of vocal organs prevents tortured animals giving voice aloud piteously to such terrible suffering." As a matter of fact, "the oven is an apparatus intended for the incineration of the . . . refuse of a laboratory!" I might add that it is a constant practice in medicine and surgery now to use various forms of apparatus for the purpose of "baking" an arm, leg or other part of the body, and lately a patient of mine has had her arm "baked" almost daily for weeks at a temperature up to 300° F. with great benefit.

In the exhibit of the American Antivivisection Society in Philadelphia in November, 1911, a portrait of a dog was shown with a large placard stating correctly that the dog had been stolen from its owner and sold to the University of Pennsylvania for experiment. It omitted to state the further fact, which is perfectly well known, that the dog was kept for identification under Rule I [No. 18, page 654] was claimed, identified and turned over to its owner and *not* used for experiment. Such a placard stating half the

truth but not the whole truth inevitably leads the public to draw a false conclusion.

The bodies of three dogs were also exhibited, each labeled "The Vivisected Product of a Philadelphia Laboratory." All show gaping wounds; one, in fact, has the entire abdomen and pelvis wide open. Such a condition is utterly incompatible with any research. Surgeons and physiologists when experimenting on animals are necessarily as scrupulously careful in their antiseptic technic as in operations upon human beings. Wounds are accurately closed and carefully dressed. Any experimenter leaving wounds wide open and undressed as are those in these dogs would invite failure in every case, and when he published his results and had to confess to a high and needless mortality, he would discredit himself.

One of these dogs shows an absurd operation in the neck. The great blood vessels from the right and left sides of the neck have been drawn together in front of the windpipe and then tied, — a procedure that is unimaginable to any surgeon. Moreover, from the wide-open abdomen and pelvis the following organs have been removed: the stomach, all the large and small intestine, except a portion a few inches long, the spleen, the pancreas, both the kidneys and the bladder. The liver, however, is left. Cannot even any non-medical person of ordinary intelligence see that if all these organs were really removed and, in addition, the great blood vessels of the neck on both sides were really tied, thus cutting off almost all of the blood supply to the brain, and then the neck and the abdomen were left wide open, the death of the animal upon the table would be inevitable?

About a dozen medical men, all teachers in medical schools, after careful inspection of these dogs, unite in believing that all or nearly all of these mutilations must have been done *post mortem* and not during life. Moreover, there is no evidence that these animals were really "vivisected," that is, operated upon during life.

Still further, granting that all these operations were done for research and during life, if the animals were etherized no pain would have been felt and no cruelty perpetrated. The significant omission to say anything as to any anesthetic, like the omission as to the restoration to its owner of the stolen dog, entirely misleads the public.

Dr. Henry P. Bowditch ("Animal Experimentation," p. 72) quotes an extraordinary statement of the late Henry Bergh, an ardent antivivisectionist. Mr. Bergh states that "Robert MacDonald, M.D., on being questioned, declared that he had opened the veins of a *dying person*, remember, and had injected the blood of an animal into them many times and had met with brilliant success. In other words, this potentate has discovered the means of thwarting the decree of Providence when a person was dying, and snatching away from its Maker a soul which He had called away from earth." I have happily been able to rescue quite a number of dying persons who but for my timely aid would have been



dead persons. Instead of supposing that I had "thwarted the decrees of Providence and snatched a soul from its Maker," I have always been under the impression: (1) that it was not in my feeble power to thwart the decrees of the Almighty, and (2) the very fact that I was able to save a dying person from death was the best evidence that the decree of Providence was that the patient at that time should live and *not* die. But it seems that in the catechism of antivivisection it is an impious crime to save the life of a *dying* person, though I suppose it is proper to save the life of a patient who is only "sick."

In the *Journal of Zoöphily* for April, 1910, p. 44, under the caption "Still More Barbarity," is an editorial signed "C. E. W.," the initials of the editor-in-chief. In this editorial it is stated as to certain experiments of Dr. Wentworth, of Boston, that they were "upon between forty and fifty little children in the Children's Hospital of that city, every one of whom died after the performance of his operation." The "casual reader" would certainly understand that every one of these forty to fifty children died as a *result* of the operation.

Let us see what the *real facts* are (BOSTON MEDICAL AND SURGICAL JOURNAL, Aug. 6 and 13, 1896): In 1895, in a case of possible tuberculous meningitis, Dr. Wentworth did lumbar puncture in order to make a positive diagnosis. Lumbar puncture consists in introducing a rather long hypodermic needle between the vertebræ in the small of the back (lumbar region) and withdrawing some of the fluid from around the spinal cord. This fluid circulates freely to and fro both within the brain and its membranes and within the membranes of the spinal cord. The needle is inserted below the end of the spinal cord, rarely with general anesthesia, sometimes with local anesthesia of the skin, but generally without even this, as the pain is slight and only momentary.

In 1895 this method of diagnosis was comparatively new. Its value was uncertain, its dangers, if any, were not determined. The appearance of the fluid and the nature of its microscopic contents in human beings were imperfectly known. Dr. Wentworth in this case used the method for diagnosis. Alarming symptoms appeared, but passed away. The child was proved not to have meningitis and "left the hospital shortly afterwards perfectly well."

In order to determine whether this case was exceptional, and the dangers only accidental, or always to be feared (which if true might compel the entire abandonment of lumbar puncture), he repeated the operation most cautiously at first and finally with surer faith in its safety and value in twenty-nine other cases. In fifteen of the thirty cases the puncture was expressly done in order to make a diagnosis, — meningitis or other diseases of the brain and spinal cord being suspected. In the other fifteen cases, while there probably was no cerebral or spinal disease, it was of great importance to know whether examination of the cerebrospinal fluid might throw

any unexpected side-light on these diseases, and if not, it would at least disclose what the normal condition, appearance and microscopic contents of the fluid were.

Forty-five punctures in all were made on the thirty children. In three cases the puncture was made after death. Of the twenty-seven living children, fourteen died. *Not one of the fourteen died from the operation*, but, as the post-mortems showed, from meningitis, tuberculosis, pneumonia, water on the brain, convulsions, etc., as is expressly stated in each case in the paper.

But the editorial says "between forty and fifty little children . . . every one of whom died after the performance of the operation." I have before me several antivivisection pamphlets published in New York, Philadelphia and Washington in which Wentworth's cases are narrated as cases of "human vivisection," and it is usually stated that "many of them died," but the reader would still suppose that it was as a result of the operation. In two of these pamphlets, "brief abstracts" of five cases are given, usually only one to three lines long. The post-mortem reports published in Wentworth's paper showed that these five patients died from meningitis (two cases), infantile wasting, tuberculosis and defective development of the brain and convulsions. Yet the "casual reader" would inevitably suppose that they died from the lumbar puncture as no other cause of death is stated.

When Dr. Cannon pointed out the inaccuracy of the editorial of April, 1910, in the *Journal of Zoöphily*, that same journal in the issue for July, 1911, p. 219, in a paper signed "M. F. L." (the initials of its associate editor) not only did not acknowledge the error, but practically repeated it by saying that Dr. Cannon is "severe on the *Journal of Zoöphily* for having referred last year to Dr. Wentworth's forty-five experiments on children and for having mentioned the fact that *the children died after the operation*. (Italics mine.)

Is it fair dealing to give such very brief abstracts and omit the most important facts as is done here? Feb. 23, 1901, in the *Journal of the American Medical Association*, I pointed out these mis-statements and what the truth was, but the same pamphlets have been constantly distributed without any correction. In November, 1910, nearly ten years after I had exposed the matter, Dr. Cannon states that one of these pamphlets was sent to a friend of his with a letter from the president of the New York Antivivisection Society, saying, "You may rely on them as being absolutely accurate and authentic!" Still worse: In April, 1910, "C. E. W." enlarges the number from thirty to "between forty and fifty" and actually says that "every one" of them died, and "M. F. L." practically repeats the mis-statement by saying that "the children died after the operation."

Suppose thirty friends dined together at the Bellevue-Stratford, then took a train and as a result of a collision fourteen were killed, would a reporter, and still less an editor, be justified in

stating in print "between forty and fifty friends dined last night at the Bellevue-Stratford. Every one of them died shortly after partaking of the dinner" entirely omitting the collision as the real cause of death?

Now after fifteen years, what has been the result of these investigations by Dr. Wentworth and others? Lumbar puncture is a thoroughly well-established means of diagnosis. That it is attended with practically no danger is shown by the fact that it is now a routine practice in certain diseases, even much more important than recording the pulse and the temperature. Holmes (*Archives of Pediatrics*, October, 1908, p. 738) states that he has done the operation "over four hundred times and has never met with an accident."

It is not only always done in some diseases, but is repeated two, three, or more times in the same patient in cases of cerebrospinal meningitis. As I showed in my paper in the *Ladies' Home Journal* (April, 1910) the son of then governor, now Mr. Justice Hughes, of the United States Supreme Court, a student at Brown University, stricken with a violent attack of the epidemic form of the disease, had lumbar puncture done three times; the first time in order to make a diagnosis and also for the injection of Flexner's serum, the second and third times for two other injections of the serum, which snatched him from otherwise practically certain death.

In this disease, Royer (*Archives of Pediatrics*, October, 1908, p. 729) says, "It is absolutely necessary to do a lumbar puncture" to make a diagnosis, and Dunn (*American Journal of Diseases of Children*, February, 1911) says emphatically, "Without lumbar puncture a diagnosis of cerebrospinal meningitis is absolutely without value for scientific, statistical or therapeutical purposes." As there are half a dozen different forms of meningitis, and the remedy for the deadly epidemic form is of no use in the other forms, lumbar puncture, the only absolutely positive means of differentiating them, cannot be dispensed with.

Moreover, its use has been broadened, as shown in the case of young Mr. Hughes. No longer are we content to use it merely as a means of diagnosis, but it is the only means of successful treatment of that terribly fatal malady. It is also used for diagnosis in several surgical diseases and injuries. Moreover, the method of spinal anesthesia, which is most useful in cases in which other methods of anesthesia are too dangerous, is exclusively by means of lumbar puncture, the cocaine or other local anesthetic being injected around the spinal cord by the hypodermic syringe.<sup>4</sup>

When a witness is called, it is not allowable for the party calling him to accept a part of his testimony and refuse to accept the rest, yet this is precisely what the opponents of research do.

<sup>4</sup> Those who wish to consult by far the best statement for general use of the steps by which epidemic meningitis has been conquered and the results of the new but now thoroughly well-established serum treatment by lumbar puncture can obtain a copy of Dunn's paper on this subject (no. XXI of the series) by enclosing four cents (or fifty cents for twenty-five copies) to the *Journal of the American Medical Association*, Chicago.

They always cite, for example, the late Professor Bigelow, printing his earlier utterances based on the suffering he saw at Alfort in the pre-anesthetic days, but they carefully omit the following later expression of opinion: "The dissection of an animal in a state of insensibility is no more to be criticised than is the abrupt killing of it, to which no one objects. The confounding of a painful vivisection and an experiment which does not cause pain, — either because the animal is under ether, or because the experiment itself is painless, like those pertaining to the action of most drugs, or because it is a trivial one and gives little suffering, — has done great damage to the cause of humanity, and has placed the opponent of vivisection at a great disadvantage. . . . A painless experiment upon an animal is unobjectionable." ("Anesthesia. Addresses and Other Papers," Henry J. Bigelow, Boston, 1900, p. 371.)

So, too, when the statements of Horsley, Ott, Crile and others that the animals were anesthetized and suffered no pain are shown to antivivisectionists, they reply, "We do not believe it, for the only testimony to this insensibility to pain is that of the vivisectioners themselves." They greedily accept as true all their other statements as to the operations they did, etc., down to the minutest details, but they refuse to accept those as to anesthesia. No court of law would sanction such a course.

In reviewing the preceding mis-statements and those quoted in my former paper ("Mis-statements of the Antivivisectionists," *Journal of the American Medical Association*, Feb. 23, 1901) I have been compelled to conclude that it is not safe to accept any statement which appears in antivivisection literature as true, or any quotation or translation as correct, until I have compared them with the originals and verified their accuracy for myself. Not seldom this is impossible, as no reference to the volume, month, day, or sometimes even the year of publication is given.

Let the reader think this too severe a statement I will refer to only one instance in the anonymous pamphlet, "Human Vivisection," in addition to others already shown to be grossly inaccurate.

On page 9 in the account of Sanarelli's five experiments in the endeavor to inoculate yellow fever, the phrase "the final collapse" appears as an alleged translation of the original Italian. The word "final" does not occur in the original. Moreover, the collapse was not "final," for every one of the five patients recovered, yet the pamphlet says that "some if not all of them died." The phrases "scientific murder" and "scientific assassination" are also freely used. Even the cover and the title page of this pamphlet have as a motto, "Is scientific murder a pardonable crime?" As not a single patient died, were they really "murdered" or "assassinated"?

#### CONCLUSIONS.

In thirty years the sixteen [British] Anti-Vivisection Societies have received more than

£100,000 (\$500,000) according to Mr. Stephen Coleridge's testimony before the Royal Commission on Vivisection (Questions 10256 to 10260). The American societies have had many bequests given to them, and in the aggregate must have also spent a large sum of money.

On the other side, the friends of research and progress have had little money, have had to stop research and waste a deal of precious time in defending their beneficent researches from the attacks of the antivivisectionists; the rest of the time they have quietly gone about their business, adding to the sum of our knowledge and forging new and more efficient weapons against disease and death.

What, then, is the net result? What have the friends of research accomplished, and what achievements can the foes of research show? Let me put it in a contrasted tabular form and confine it to what has occurred during my own professional life.

#### THE ACHIEVEMENTS OF THE FRIENDS OF RESEARCH.

1. They have discovered and developed the antiseptic method and so have made possible all the wonderful results of modern surgery.

2. They have made possible practically all modern abdominal surgery, including operations on the stomach, intestines, appendix, liver, gallstones, pancreas, spleen, kidneys, etc.

3. They have made possible all the modern surgery of the brain.

4. They have recently made possible a new surgery of the chest, including the surgery of the heart, lungs, aorta, esophagus, etc.

5. They have almost entirely abolished lock-jaw after operations and even after accidents.

6. They have reduced the death-rate after compound fracture from 2 out of 3, i. e., 66 in 100, to less than 1 in 100.

7. They have reduced the death-rate of ovariectomy from 2 out of 3 or 66 in 100 to 2 or 3 out of 100.

8. They have made the death-rate after operations like hernia, amputation of the breast and of most tumors a negligible factor.

9. They have abolished yellow fever — a wonderful triumph.

10. They have enormously diminished the ravages of the deadly malaria, and its abolition is only a matter of time.

11. They have reduced the death-rate of hydrophobia from 12 or 14% of persons bitten to  $\frac{1}{100}$  of 1%.

12. They have devised a method of direct transfusion of blood which has already saved very many lives.

13. They have cut down the death-rate in diphtheria all over the civilized world. In nineteen European and American cities it has fallen from 79.9 deaths per 100,000 of population in 1894, when the antitoxin treatment was begun, to 19 deaths per 100,000 in 1905 — less than one quarter of its death-rate before the introduction of the antitoxin.

14. They have reduced the mortality of cerebro-spinal meningitis from 75 or even 90 odd per cent to 20% and less.

15. They have made operating for goiter almost perfectly safe.

16. They have assisted in cutting down the death-rate of tuberculosis by from 30 to 50%, for Koch's discovery of the tubercle bacillus is the cornerstone of all our modern sanitary achievements.

17. In the British Army and Navy they have abolished Malta fever which in 1905, before their researches, attacked nearly 1,300 soldiers and sailors. In 1907 there were in the army only 11 cases; in 1908, 5 cases; in 1909, 1 case.

18. They have almost abolished childbed fever, the chief former peril of maternity, and have reduced its mortality from 5 or 10 up even to 57 in every hundred mothers to one in 1,250 mothers.

19. They have very recently discovered a remedy which bids fair to protect innocent wives and unborn children, besides many others in the community at large, from the horrible curse of syphilis.

20. They have discovered a vaccine against typhoid fever which among soldiers in camps has totally abolished typhoid fever, as President Taft has so recently and so convincingly stated. The improved sanitation which has helped to do this is itself largely the result of bacteriological experimentation.

21. They are gradually nearing the discovery of the cause, and then we hope of the cure, of those dreadful scourges of humanity, cancer, infantile paralysis and other children's diseases.

Who that loves his fellow creatures would dare to stay the hands of the men who may lift the curse of infantile paralysis, scarlet fever and measles from our children and of cancer from the whole race? If there be such cruel creatures, enemies of our children and of humanity, let them stand up and be counted.

22. As Sir Frederick Treves has stated, it has been by experiments on animals that our knowledge of the pathology, methods of transmission and the means of treatment of the fatal "sleeping sickness" of Africa has been obtained and is being increased.

23. They have enormously benefited animals by discovering the causes and in many cases the means of preventing tuberculosis, rinderpest, anthrax, glanders, hog cholera, chicken cholera, lumpy jaw and other diseases of animals, some of which also attack man. If the suffering dumb creatures could but speak, they too would pray that this good work should still continue unhindered.

#### THE ACHIEVEMENTS OF THE FOES OF RESEARCH.

Not a single human life has been saved by their efforts.

Not a single beneficent discovery has been made by them.

Not a single disease has been abated or abolished.

All that they have done is to resist progress —

to spend \$500,000 in thirty years in Great Britain alone, and very large amounts of money in the United States,—and to conduct a campaign of abuse and gross misrepresentation.

They apparently care little or nothing for the continued suffering and death of human beings, the grief and not seldom the ensuing poverty of their families, provided that 26 out of every 1,000 dogs and cats, monkeys and guinea pigs, mice and frogs experimented on shall escape some physical suffering.

They insist, therefore, that all experimental research on animals shall stop and — astounding cruelty — that thousands of human beings shall continue year after year to suffer and to die.

The Age of Experiment is the Age of Progress. This is true in mechanics, in engineering, in electricity, in every department of human knowledge in which experimental investigation is possible.

Medicine is no exception. Stop experiment and you stop progress. But while stopping progress in other departments only means that we shall have no further development in the external comforts and conveniences of life, the arrest of the experimental method in medicine means that progress in the knowledge of the cause and cure of disease shall stop and that our present sufferings and sorrowful bereavements from the onslaught of cancer, scarlet fever, measles, whooping cough and all the other foes of health and life — especially of our dear children — must continue.

In the last fifty years we have made more progress than in the preceding fifty centuries. I believe that if experimental research is continued and aided, the next fifty years will be still more prolific of benefit to mankind than even the past fifty.

I have absolute confidence in the humanity, the intelligence and the common sense of this nation that they will see to it that this progress shall *not* be halted by the outcries and misstatements of the antivivisectionists.

Dr. S. Weir Mitchell, when visiting the Antivivisection Exhibition in Philadelphia, put the matter in a nutshell when he said to one of the guides, "Your exhibition is not quite complete. You should place here a dead baby and there a dead guinea-pig with the motto, "Choose between them."

## Original Articles.

### THE TECHNIC OF GASTRO-INTESTINAL THERAPY.

BY MAURICE VÉJUX TYRODE, M.D., BOSTON.

SOME years ago, we presented a small paper on the general therapeutics of gastric affections; also one on the treatment of constipation; and since that time, we have referred in a passing way to some points in the therapeutics of gastro-

intestinal diseases while discussing their diagnosis and symptomatology in other articles. Having received numerous letters asking questions concerning various points of gastro-intestinal therapy, we thought it easier to answer these by publishing our own technic in this specialty.

Within the last decade, we have developed a systematic method of which we will try to briefly state the chief points below. The method involves all branches of therapeutics, i. e., dietetic, physical, medicinal and psychical. The most important are the first three, and especially the first two. The method is used not only as a curative measure, but also as a therapeutic test to make the final decision as to whether certain doubtful cases are operative or not.

#### DIET.

In working out the dietetic method, it was found impracticable to use hard-fast or dry-cut diet lists, as those of Leube, Lenhartz and Penzoldt, for ulcer, and of many others for other conditions. It was found that good results, especially in chronic affections, could only be obtained by a very elastic system where the individuality of the patient, the stage of the disease and subsequent progress could be taken into consideration, but where definite varieties and quantities of food could be given. After having made several régime blanks, we have finally composed one which has served our purpose thoroughly during the last few years for the treatment of all gastro-intestinal affections. We mention diseases of the stomach and intestines together because, as has been shown in a previous article, they are frequently associated and need treatment directed towards both at the same time.

The main principles in the diet are, firstly, to either increase or decrease body weight according to the state of nutrition; secondly, to relieve the irritation of certain parts or the whole of the gastro-intestinal tract; thirdly, to increase or decrease the bulk of fecal residue and watery contents of the same; lastly, to change the nature of bacteriological action in the intestines; that is, to check a pathological putrefaction or fermentation.

We proceed in the following manner. After having made a thorough physical examination of the patient, we request the collection of the twenty-four hours' quantity of urine and stool on a known diet, and in some cases (by no means in all), we make a stomach expression test, also on a definite test meal. After all possible evidence is collected, we write upon the appended régime blank the character of diet, hours, exercise, baths, etc., which we believe is indicated for that case. We also enclose the "Explanatory Notes" which explain the diet, and give approximate equivalents for weight so that the patient need not usually employ scales. Within a fortnight or three weeks, we again make analyses of specimens and also a physical examination of patient and take the history since the former visit. At this time, according to results, we make modifications

on the régime, either increase or decrease of certain elements or the introduction of new foods, and, as may be seen, these blanks are perfectly suitable for many changes, which are usually made with the colored pencil.

In order to facilitate the making out of the diet list, we have certain general types from which we make suitable modifications quantitatively and, to a certain extent, qualitatively for individual cases.

In a rough way, we have divided the various types into sixteen groups, and subgroups which form the skeleton for building up specially for each patient an individual diet-list.

In the first great group, milk forms the only or chief element. It is sometimes modified with lime-water, Vichy, barley water, etc.

In the second great group, the elements are mainly lactofarinaceous, with exclusion of meat and fish. The basic diet of this group is absolutely smooth and consists of milk, eggs, smooth cereals, bread lightly toasted or twenty-four hours old, sweet butter and cream. Successive modifications are made containing in addition, in the first subgroup, baked potatoes finely mashed; and in the next one, strained cooked fruits, and still in the next, very tender green vegetables, as well-cooked, tender string beans, green peas and finely cut spinach.

The next great group has for a basis smooth lacto-farinaceous elements plus very tender unsalted, unsmoked meat and fish. The first subgroup has added various tender well-cooked and strained vegetables and strained and cooked apples and pears. The next subdivision has unstrained vegetables, unstrained cooked fruits, as prunes, pears, bananas; also dried dates and figs. The next subgroup contains lettuce salad and certain raw fruits. The last subdivision includes all the above plus ham and bacon. As we go ahead on the various subdivisions, the diets become less and less lacto-farinaceous, until in the last one these elements may be a very inconspicuous part of the diet.

As the liver and pancreas are offshoots of and intimately connected with the gastro-intestinal tract both physiologically and anatomically, we cannot have a complete gastro-enteric dietary without considering diabetes. For this disturbance, we use, as originally dictated by Cantani, a diet free or nearly free from carbohydrates according to the case and gradually increase the carbohydrate elements according to the resistance. So far there is no originality, but as diabetes is not infrequently caused by extension of inflammation of the intestine or gall passages into the pancreatic duct, we also take into consideration in this class of diet, the gastro-intestinal tube. Thus some cases with a large amount of intestinal putrefaction do badly on much meat, while others with a very irritable intestinal mucosa are badly affected by an excess of crude, green vegetables, as cabbage, sauerkraut, etc. We therefore take all these gastro-intestinal points into consideration in making a diabetic diet.

We have types of diet for obesity with irritation of the stomach or intestine on the one hand, and atony of the intestine and constipation on the other hand.

To illustrate the use of these diets, we will presuppose a few common symptomatologies. The first is that commonly known as hyperacidity, or, as called by Fenwick, hypersecretion, and which is present in various types of gastritis of a simple as well as of a reflex type, such as those occurring in gallstone disease, in chronic appendicitis, in various types of colitis. This symptomatology also occurs in peptic ulcer of the lower esophagus, stomach and duodenum. It is that symptomatology which is composed of all or some of the following symptoms: heart-burn, water-brash, regurgitation, fullness and pressure after meals, eructation of gas, pain or distress either unrelieved or relieved by food and alkalies or members of the atropine group. These symptoms are probably primarily due to spasm of the stomach as a whole or of either of its orifices, the pylorus or the cardia. The prime cause of these spasms may lie in distant reflex foci, as in chronic appendicitis, gallstone disease, colitis and pericolicitis; or it may rest in the stomach itself in a hyperesthetic mucosa or one damaged by erosions, fissures or actual ulcers. Although Hertz has proved that the mucosa of the stomach does not have nerves conveying the sensation of pain, yet this does not exclude the possibility of reflex spasm carried through other types of nerves with which the stomach is well supplied.

Based on the pathology of this symptomatology, our diet, varying somewhat according to severity, contains chiefly very smooth lacto-farinaceous material, because they are best adapted for soothing the irritation of the gastro-intestinal tract and relieving the source of the discomfort. This relief, of course, is best obtained in cases where the trouble originates from chronically inflamed gastric or intestinal mucous membrane with or without erosions, and in cases of ulcers which are not too advanced. In those cases due to gallstone disease, the benefit is not specially marked unless it is ascending gall-bladder inflammation without stones and originating from inflammation of the mucous membrane of the duodenum. In cases due to chronic appendix inflammation or to pericolicitis, a considerable benefit may be derived, at least for a time, from the improvement of the colitis which undoubtedly affects these other conditions. Bad cases of chronic appendix, of gallstones and ulcer remain absolutely unaffected. Thus the diet aids us also, to a certain extent, as a diagnostic measure.

If the symptoms are very severe, we begin at once with one of our milk dilution diets, the same repeated every two hours. If somewhat less severe, we begin with one of the second type of diet, consisting of six meals per day, composed of milk, eggs and all the smooth cereals, as thoroughly boiled hominy, cream of wheat, rice, tapioca, macaroni, etc., also fresh cream cheese with cream and sugar, lightly toasted

bread with sweet butter. In cases with still less severe symptoms, we begin with the last named diet, to which very tender, unsalted and unsmoked meat and fish, as chicken, roast beef, lamb, fresh cod and haddock, have been added. As cases show improvement, we gradually add finely mashed farinaceous vegetables, as potatoes and squash, then the very tender green vegetables, as string beans, green peas and chopped spinach and, later, purées of rougher farinaceous vegetables, as carrots, turnips, also strained cooked fruits. Later, we add raw apples, also salads with very little vinegar, but much oil. We forbid indefinitely raw cucumbers, tomatoes, acid fruits, cabbage, strong spices, excess of smoking and strong alcoholic beverages, tea and coffee except in greatest moderation, as these are factors which are most prone to cause a return of symptoms. The calories in these diets and also the number of meals, etc., varies with the nutritional condition of the patient, so that although we have distinct formed types, we never give exactly the same diet to two different persons.

The next general symptomatology consists of intestinal type of symptoms, such as fullness and distress not directly connected with meals, bloating, pain or discomfort in some part of the lower abdomen either in the lower right or lower left quadrants, attacks of colic or colicky feelings, the passage of gas by rectum, rolling and grumbling in the bowels, sensitiveness on pressure in either iliac fossæ, the passage of mucus and scybala and either constipation or diarrhea. This symptomatology includes cases of enteroptosis, of general colitis, of chronic rectitis or proctatits, pericollitis with adhesions, chronic appendicitis and gallstone disease.

The dietetic treatment is here immensely influenced as to whether we have true diarrhea or constipation. In the diarrhea cases, we use chiefly a diet of the lacto-farinaceous type as described above, without or with very little meat if the putrefactive changes are in excess. When the diarrhea is accompanied by an excess of fatty acid fermentation, we also diminish the fats, as although the proteids may be responsible for either putrefactive or fermentative diarrhea, nevertheless the presence of excess of fat increases the formation of fatty acids. In cases with constipation, which are by far the most common, the dietetic régime is directed to saving the intestinal mucosa from irritation from rough residues, but at the same time keeping sufficient bulk of soft residues retaining plenty of moisture. To this end, we use a lacto-farinaceous diet with moderate amount of meat together with a considerable quantity of strained cooked fruits and such vegetables as turnips, squash and carrots finely mashed and strained, which leave a considerable soft residue. The amount of milk, cream or farinaceous food given depends upon the state of nutrition. If the patient is too stout, in order to reduce his weight, a minimum of these is given in the diet and petroleum oil is used instead of absorbable fat as an intestinal lubricant. In the thin cases, olive oil and large quantities of

cream and butter are used in order to increase their body-weight, at the same time giving an emollient residue to the bowels. We are very much opposed to the use of citrous fruits, as oranges, grapefruit, lemons, etc., and of hard, raw, rough vegetables as cucumbers, cabbage, German pickled herring, the peel of any fruit, in the treatment of constipation if there exists any colitis at all, as is usually the case. As with the various diets used for irritation of the upper digestive tract, so our different type-diets for the lower alimentary canal have to be varied according to the individuals.

Naturally dietetic or any other non-surgical treatment will not in itself cure chronic appendicitis or gallstone disease or marked kinks and twists in the bowels due to severe adhesions; nevertheless, the relief of enterocolitis by suitable dietetic and other measures may occasionally markedly diminish the symptoms from inflammation in those two appendages of the gastrointestinal tract, the gall bladder and appendix. It is not surprising that appendix inflammation should be so much influenced by colon treatment, since the relation of appendicitis and colitis is very close, as we have shown in a recent paper. Furthermore, we know now that a large proportion of cases formerly classed as appendicitis were cases of cecitis, and these are certainly often amenable to non-surgical measures.

As regards the use of tea and coffee in gastrointestinal affections, we might make this remark which to our mind settles that subject. We have never seen a case of gastro-intestinal disturbance requiring medical attention which was not accompanied by some form or degree of nervous fatigue or irritability. As it is a well known pharmacological fact, caffeine (which is present in both tea and coffee) increases nervous fatigue by decreasing the power of rest, and increases the irritability of the nervous system. Besides the objection from the pharmacological action of caffeine, we have in coffee various gastro-intestinal irritant oils, which are usually objectionable, likewise tannin in tea, which is certainly objectionable in most gastric affections. We therefore systematically forbid tea and coffee at first in practically all cases, and the advisability has been borne out by the results obtained under this plan as compared under that one which included tea and coffee. Instead of those drinks, we use cocoa or chocolate, which, if properly prepared, are easily digestible and devoid of harmful influences on the gastro-intestinal tract and nervous system.

As regards alcoholic beverages, we forbid them all systematically at first in cases of gastric affections of the hyperacidity type. Later, we may allow a little wine, beer, porter or ale, but we never recommend the stronger drinks, as whiskey, gin, rum, cordials, etc. In intestinal affections accompanied by diarrhea, we sometimes prescribe or allow red wines of the Burgundy or Bordeaux type. In those accompanied by constipation, if we use or allow alcohol, we preferably choose the malt liquors, as beer, ale or porter. Smoking has always, if any, a bad



influence upon the stomach. It tends to cause a hypersecretion of hydrochloric acid and thereby spasm and distress. We therefore always forbid it in diseases of the upper alimentary canal, but we allow it in small moderation in those of the lower tract, as there, it has much less influence.

#### PHYSICAL THERAPY.

*Exercise.* — The gastro-intestinal tract and its appendages are, like all other parts of the body, much influenced by the general state of the metabolism, and this in turn is greatly dependent upon a suitable amount of physical exercise. This is obvious, as primitive man lived a natural life constantly out-of-doors, with a great deal of exercise. Any departure from natural conditions, especially such as exist in high states of civilization, tends to produce pathological processes.

We plan the exercise carefully to suit individual cases. We divide it into two classes; the first, comprising walking and all the outdoor sports, golf, tennis, horseback riding, rowing, swimming, skating, etc.; the second includes calisthenics done at home, also dumbbells, Indian clubs, gymnasium work, physical culture courses, fancy dancing, etc.

We always combine the indoor with a large proportion of outdoor exercise. For the simple calisthenics, we follow the book of Hartvig Nissen and pick out exercises suitable for the special case, to be taken in the early morning, at night, or at both times, for from five to twenty minutes. The other methods, we use in suitable cases under suitable circumstances.

For the outdoor exercise, we use a definite, regular amount of walking for everybody, but in addition or in substitution, we may prescribe some of the outdoor sports suitable to the case.

*Massage.* — This form of physical therapeutics is valuable, but less so than the former, and although we use general massage in a certain percentage of suitable cases, yet it does not form a regular part of our curriculum. Auto-massage of the abdomen, we employ much more frequently, especially in cases of dilatation of the cecum or other parts of the large intestines or of the stomach, provided that we do not suspect ulcer or very active inflammatory processes. We teach the patients the movements which he is to make and which are appropriate for his case, and generally have him practice these in a semi-reclining posture with the abdomen lax, either in the morning, at night or at both times.

*Baths.* — We not infrequently recommend certain patients to European spas and also to the seashore for baths suitable to their conditions, but in every case, we recommend some form of bath at home. For the general tonic effect, we use in the morning a cool or cold sponge, spray or dip bath. For the quieting effect on the nervous system and to relax spasm in the gastro-intestinal tract, we employ the tepid bath at from 90° to 96° F., usually at night before retiring. In cases with marked auto-intoxication, we use the hot bath, the cabinet bath and the Turkish

bath. These, by producing profuse perspiration, help to eliminate poisonous products from the body which may disturb the gastro-intestinal tract.

*Injections.* — These are among the most valuable agents for the treatment of that part of the intestinal tract included between the cecum and the anus. They are invaluable and indispensable in such affections as rectitis, sigmoiditis, general colitis and even cecitis. We use water at different temperatures, sometimes alone, but usually with some remedial agents. If the injection is meant to affect portions of the intestinal tract above the lower rectum, we always give it in the knee-chest position or in the lateral decubitus with a pillow under the hips, and with the fountain syringe not higher than one to one and a half feet above the hips in order that the water may enter slowly and without any great amount of pressure. The following are some of the drugs which we use for injections, and examples of prescriptions will be found at the end of the article: Boric acid, borax, sodium bicarbonate and borax, and salt mixtures. In cases with much hyperesthesia and tendency to spasm, gelatine injections according to formulas given later have been found very valuable.

In sigmoiditis or procto-sigmoiditis with tendency to adherent fecal crusts, injections of cottonseed oil or petroleum have been found useful.

*Suppositories.* — We employ mainly, specially constructed long suppositories, about three inches in length, for the application of astringent and local anesthetic remedies to the anus and lower rectum. The chief among these remedies are alum, copper sulphate, tannic acid, anesthesin and orthoform. Instead of suppositories, we sometimes make these ingredients in the form of a stiff ointment which is introduced through the pile-pipe, or rectal ointment tube.

*Electricity.* — Although we have tried this agent in gastro-intestinal affections in past years, we were never able to convince ourselves that it has specially valuable action in this class of affections and we never found that it could accomplish anything which the other agents could not.

#### PSYCHOTHERAPY.

Although we are not a trained psychotherapist, nor a follower of Christian Science nor Emmanuelism, nevertheless we consider it a proved fact that proper attention to the attitude of mind of the patient is absolutely essential in carrying out gastro-intestinal therapy. Among the objects to be accomplished by this system of therapeutics are the following: Firstly, to dispel unfounded fears of mortality or of incurableness; secondly, to instil hope and obtain the co-operation of the patient, as well mental as physical, in carrying out annoying but necessary régimes; thirdly, to counteract the almost ever-present but unfounded prejudices against certain elements of diet, against the taking of suitable

quantities of food, against certain drugs or against walking or other exercises.

#### DRUGS.

*Bromides.* — It has been our experience that we hardly ever have seen a patient with organic or functional gastro-intestinal disturbances who does not suffer from a certain amount of nervous fatigue and irritability. This may be present in patients who sleep badly and but a short number of hours, as well as in those who claim to be excellent sleepers and to remain unconscious from eight to nine hours without waking. In many of the latter class, we will discover on cross-examination that they may feel tired in the morning and not refreshed. This is because they have been under tension and have thrashed about all night. This fact is frequently corroborated by the wife or husband of the patient while he or she is oblivious. Many patients will admit much nervousness, excitability and depression in spirits, while others who are much worse off as far as irritability, depression, etc., than the first, deny all symptoms of nervousness, irritability and depression, and claim to be most cheerful and buoyant.

Thus in the large majority of gastro-intestinal patients some drug is necessary to give nervous relaxation, and the one which we have found most valuable is potassium bromide. Not only does it produce general relaxation, but also special relaxation in gastrospasm, in spasm of the pylorus, of the cardia and of the intestines. We use it in doses sufficient to produce proper relaxation, and the amount varies greatly with different patients. We usually begin with about 1 gm. or 15 gr. three times daily and either increase or decrease the dose as the symptoms warrant. We always give it after meals combined with an alkali, and usually followed by a full glass of milk. Given in this way, we practically never have seen any symptoms of gastric irritation or intolerance so frequently mentioned by other authors. We obviate to a great extent the skin eruptions by having the patient consume sufficient liquids in the shape of water, either plain or Vichy. This favors the excretion through the kidneys and thus saves the skin. At the end of the article we cite a few of the many combinations of this drug which we use.

*Narcotics.* — As regards the narcotics of the morphine group, we practically never employ them except in some very painful acute affections, as gallstones or intestinal spasm in acute dysentery and proctatitidis. The somnifacients of the chloral and sulphonal group, including the large list of modern additions, as tetronal, trional, veronal, etc., we practically never use, as we are nearly always able to obtain sleep with bromides if given in sufficient quantity and long enough.

*Local anesthetics.* — We practically never use cocaine except as a local anesthetic to permit of manipulations about the anus and lower rectum and also to anesthetize the pharynx during stomach washings. We, however, employ the newer and insoluble orthoform and anesthesin

both in the stomach in cases of hyperesthesia and in the rectum in the form of ointments or suppositories in painful affections of this part.

*Atropin group.* — We have used atropin itself, extracts of belladonna and hyoscyamus in various spasmodic conditions of the gastro-intestinal tract, and especially in pyloric spasm due to ulcers or erosions.

*Alkalies.* — These have been found of tremendous value in the large majority of irritated conditions of the gastric mucosa whether there was actual hyperacidity or not. As it has been found experimentally by Hertz that the gastric mucous membrane, normal or pathological, even ulcerated, is insensible to hydrochloric acid of almost any strength occurring in the body, it might at first sight seem irrational to use alkalies. This however is not so, because a reflex contrary to the normal may be produced by acids in the stomach, and instead of acid relaxation of the pylorus we get an acid spasm of the same which is relieved by alkalies. Our favorite alkali is magnesium oxide, but we also employ sodium bicarbonate and bismuth subcarbonate.

*Salts.* — We use various combinations of salts, especially of the following: Sodium chloride, sodium bicarbonate, sodium phosphate and sodium sulphate. We vary these combinations according to circumstances; thus, if more laxative effect is desired, we introduce a preponderance of sodium sulphate; if, on the contrary, an alkaline stomach or intestinal wash is desired, we have the sodium bicarbonate and phosphate in excess. These salt mixtures, we use chiefly for the following purposes; firstly, to cleanse the stomach and upper intestinal tract of mucus, and, according to the concentration and time of administration, either to increase or decrease gastric and intestinal secretions; secondly, to increase the peristalsis of the stomach and intestines and to aid evacuation; thirdly, as injections to cleanse the colon and to promote healing of catarrhal processes.

*Gastro-intestinal astringents.* — One of the salts of bismuth, and chiefly the subnitrate and subcarbonate, we employ for astringent purposes both in the stomach and intestines, as in cases of erosions, ulcers and enterocolitis with diarrhea. We use silver salts very rarely in the stomach, but more often as injections for inflammation of the lower colon. For this last-mentioned purpose, we prefer the old silver nitrate to the newer silver preparations. Concerning the tannic acid astringents, we never employ any by mouth except the newer compounds which are insoluble in the stomach, as tannalbin, tannipin, etc. For astringent effect on the colon, we occasionally use as an injection either solutions of tannic acid itself or of other tannin-containing substances, as the tincture of krameria.

*Intestinal disinfectants.* — To change the bacteriological state of the gastro-intestinal tract, we rely much more on diet than on drugs; nevertheless, we occasionally use in cases of excessive proteid putrefaction such drugs as the salicylate and naphthalate of bismuth, also thymol. The

latter, however, and other anti-parasitics, we use rather in cases where intestinal worms have been found.

*Vegetable and synthetic laxatives.*— We practically never use laxative pills, and the only vegetable laxative which we rarely introduce in small amounts, mixed with magnesia and bismuth or other substances, is rhubarb. The amount is insufficient, alone, to produce a relief of constipation without the special dietary arrangements. We occasionally use in the same way very small doses of phenolphthalein. We never employ large quantities of even these substances as a routine treatment to relieve constipation.

*Oil and petroleum.*— We have found olive oil a most valuable remedy in irritated conditions of the stomach and also in certain cases of intestinal irritation with constipation. We use internally petroleum, especially in the form of emulsions, to keep the intestinal contents from hardening in case of chronic constipation. It is exceedingly valuable in such cases because it remains absolutely unabsorbed in its passage through the alimentary canal. We employ both oil and liquid petroleum as injections for various inflammatory conditions of the lower intestinal tract.

*Agar-agar.*— This substance has been found in our hands quite valuable in cases where insufficient bulk of food was taken by patients, but we always prefer to increase the volume of unabsorbable material with diet when possible rather than with this substance or regulin.

*Gelatine.*— Especially in combination with alkaline salts, this has been found a most valuable agent in the form of injections in cases of acute or subacute inflammation of the colon.

*Acids.*— Hydrochloric acid or any other mineral acids, we rarely employ in gastro-intestinal therapy because, even in cases of anacidity, these agents may cause considerable distress and increase the irritation of the stomach. The rationale of this is well supported by Pilcher's work on gastritis hemorrhagica where he finds a certain type of anacidity accompanied by erosions. It often seems to us that the decrease or even absence of hydrochloric acid may often be a protective measure of nature to prevent further irritation of an inflamed or eroded surface.

*Tonics.*— Within this old term, we include the simple appetizing bitters; the general stimulant, nux vomica; the metabolic stimulant, arsenic, and the blood-builder, iron. We have little to say about these substances, as we use them according to their generally accepted and standard indication. Concerning nux vomica, we use this drug rather seldom and in small doses, while we never use bitters in cases of marked gastric irritation.

#### EXAMPLES OF PRESCRIPTIONS.

NOTE.— Grams (for Solids); Cubic Centimeters (for Liquids).

Potassii bromidi,	75 0
Sodii bicarbonatis,	10 0
Misturæ magnesiæ ad,	250 0

Misce.

Da signa: Take 1 teaspoonful in  $\frac{1}{2}$  glass water followed by 1 glass milk 3 times daily after meals.

Potassii bromidi,	25 0
Ferri citratis,	2 5
Misturæ bismuthi (P. D.),	75 0
Syrupi aurantii ad,	125 0

Misce.

Da signa: Take 1 teaspoonful in  $\frac{1}{2}$  glass water followed by 1 glass milk 3 times daily after meals.

Potassii bromidi,	0 5
Magnesiæ oxidi ponderosi,	0 5
Extracti hyoscyami,	0 03

Misce; fiat pulvis et dentur doses tales no. L ad capsulas amyliacas.

Da signa: Take 1 cachet soaked in 1 tablespoonful of water followed by 1 glass milk 3 times daily after meals.

Atropinæ sulphatis,	0 0002
Sodii bicarbonatis,	0 2
Magnesiæ oxidi ponderosi,	0 2
Potassii bromidi,	0 5

Misce; fiat pulvis et dentur doses tales no. XXX ad capsulas amyliacas.

Da signa: Take 2 cachets each soaked in a tablespoonful of water and followed by 1 glass milk 3 times daily after meals.

Extracti belladonnæ,	0 005
Magnesiæ oxidi ponderosi,	0 5
Sodii citratis, ana,	0 5

Misce; fiat pulvis et dentur doses tales no. XXX ad capsulas amyliacas.

Da signa: Take 1 cachet soaked in 1 tablespoonful water followed by 1 glass milk 3 times daily between meals.

Magnesiæ oxidi ponderosi,	30 0
Bismuthi subcarbonatis, ana,	30 0

Misce.

Da signa: Take  $\frac{1}{2}$  teaspoonful mixed into  $\frac{1}{2}$  glass water 3 times daily 2 hours after meals.

Bismuthi subnitratæ,	0 5
Bismuthi betanaphtholatis, ana,	0 5
Thymolis,	0 1

Misce; fiat pulvis et dentur doses tales no. XXX ad capsulas amyliacas.

Da signa: 1 cachet soaked in 1 tablespoonful water and followed by 1 glass milk or water, 3 times daily after meals.

Olei aurantii,	0 1
Emulsi petrolei (P.D.),	250 0

Misce.

Da signa: Take 2 tablespoonfuls 3 times daily after meals.

Agar-agar,	100 0
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Fiat pulvis.

Da signa: Mix 1 tablespoonful in cereal, apple sauce or soup, and take 3 times daily with meals.

Liquoris acidi arsenosi,	2 0
Tincturæ ferri citro-chloridi,	25 0
Tincturæ nucis vomicæ,	15 0
Elixir aromatici ad,	250 0

Misce.

Da signa: Take 1 teaspoonful in a small glass water or wine 3 times daily before meals.

Tincturæ ferri citro-chloridi,	25 0
Tincturæ gentianæ compositæ ad,	250 0

Misce.

Da signa: Take 1 teaspoonful in  $\frac{1}{2}$  glass water 3 times daily before meals.

Sodii chloridi (Squibb),	10 0
Sodii bicarbonatis (Squibb),	20 0
Sodii phosphatis exsiccati (Squibb),	50 0
Sodii sulphatis exsiccati (Squibb),	250 0
ad,	250 0

Misce.

Da signa: Dissolve 1 tablespoonful in 1 quart warm water and use as rectal injection according to specially printed directions every morning 2 hours after breakfast.

MAURICE VÉJUX TYRODE, M.D.  
416 Marlboro Street.  
Boston, Mass.

1 Consultations only by appointment. Telephone between 8 A.M. and 4 P.M.


3

EXERCISE, BATHS, ETC.

REGIME FOR M \_\_\_\_\_

A.M.	ARISE _____
	EXERCISE _____
	BATH _____
	D1. Fruit    Milk or Cocoa    Farinaceous
	Bread    Meat, Fish and Eggs    Water
P.M.	G1. _____
	D2. Soup    Meat, Fish and Eggs    Vegetable
	Farinaceous    Salad    Cheese    Sweet
	Fruit    Bread    Milk    Water
	G2. _____
	S. Soup    Meat, Fish and Eggs    Vegetable
	Farinaceous    Salad    Cheese    Sweet
	Fruit    Bread    Milk    Water
	BATH _____
	G3. _____
RETIRE _____	

Eat slowly with mind free from care and excitement,  
and chew thoroughly.

 PLEASE BRING THIS LIST AT YOUR NEXT VISIT.

2	VARIETY.	QUANTITY PER DAY.	REMARKS
Relishes			
Soups			
Eggs			
Meat and Fish			
Vegetables (Green)			
Vegetables (Farin.)			
Salads			
Fruits and Nuts			
Cheese			
Farinaceous			
Sweets			
Bread, etc.			
Butter			
Milk			
Cream			
Oil			
Water			
Tea, Coffee, Cocoa			
Alcoholics			
Smoking			

(This blank is reduced to one-half size.)

Sodii chloridi,	25	0
Sodii bicarbonatis,	100	0
Sodii phosphatis ad,	200	0

Misce.

Da signa:  $\frac{1}{2}$  teaspoonful dissolved in 1 glass hot water and taken  $\frac{1}{2}$  hour before meals 3 times daily.

Sodii chloridi (Squibb),	25	0
Sodii bicarbonatis (Squibb),	10	0
Potassii sulphatis (Squibb),	2	5
Sodii sulphatis exsiccati (Squibb),	250	0

Misce.

Da signa: Take  $\frac{1}{2}$  to 2 teaspoonfuls dissolved in 1 glass cool water  $\frac{1}{2}$  hour before breakfast. Gauge dose according to effect upon the bowels so as to obtain 1 to 2 good movements daily.

Orthoformi,	0	2
Alumini,	0	2

Olei theobromatis q. s. ut fiat suppositorium unum 1  $\frac{1}{2}$  cm. in diam. per 8 cm. sicut pictura infra.

Dentur doses tales no. XX.

Da signa: Use 1 suppository every night before retiring and retain until next morning.

## EXPLANATORY NOTES OF RÉGIME.

The diet given on page 1 of Régime is to show the distribution throughout the day, but for details as to classes of food enumerated, actual quantity per day, etc., you are referred to page 2. For instance, when "Vegetable" is mentioned on page 1, you may find in the table on page 2 what variety of vegetable is allowed and how prepared. When an article is mentioned on page 2 with a quantity and not on page 1, the patient is to consume that quantity throughout the day at the various meals. The quantity of food given per day must be eaten, no more, no less.

1 lb. contains 16 oz. (solid).  
1 pt. contains 16 oz. (fluid).

## APPROXIMATE EQUIVALENTS OF QUANTITY.

1 tablespoonful contains  $\frac{1}{2}$  oz. (fluid).

1 tumbler or large cup contains  $\frac{1}{2}$  pt. or 8 oz. (fluid).

SOUP,  $\frac{1}{2}$  pt. . . . 1 plate.

MEAT OR FISH, 3 oz. . . . 1 portion fish, poultry, steak, roast beef, 1 pork chop, 2 small lamb chops, 2 portions ham or bacon.

VEGETABLES, 2 oz. . . . 2 tablespoonfuls string beans, green peas, squash, mushrooms, carrots, cooked celery, rhubarb, cucumbers, cabbage, spinach, asparagus tips, turnips, cauliflower, Brussels sprouts, tomatoes,  $\frac{1}{2}$  medium potato, 1 onion, 1 beet.

SALADS, 2 oz. . . . 1 portion lettuce.

FRUITS, 4 oz. . . . 4 tablespoonfuls cooked fruits, jams and jellies; of raw fruits, 4 tablespoonfuls berries,  $\frac{1}{2}$  canteloupe,  $\frac{1}{2}$  grapefruit,  $\frac{1}{2}$  orange, 1 apple, 1 pear, 2 peaches, 1 banana, 14 dates, 2 cubic inches pressed figs.

CHEESE, 1 oz. . . . 1 ordinary portion Swiss, American, Roquefort, Edam, Camembert, etc.;  $\frac{1}{2}$  cream.

FARINACEOUS, 1 oz. . . . 1 tablespoonful rice, tapioca, macaroni, cooked cereals, etc.

SWEETS, 1 oz. . . .  $\frac{1}{2}$  small pastry tart, 1 slice sponge or angel cake, 1 tablespoonful ice cream, custard, rice, tapioca, or bread puddings, etc.; 1 sq. Baker's chocolate; 3 chocolate creams; 4 teaspoonfuls or lumps of sugar.

BREAD, 1 oz. . . . 1 slice home-made bread, plain or toasted, 1 small roll, 5 saltine crackers.

BUTTER,  $\frac{1}{2}$  oz. . . . 1 butterball (1 inch in diameter).

OIL,  $\frac{1}{2}$  oz. . . . 1 tablespoonful.

*This is not a diet list, but only explanatory notes.*

## OBSERVATIONS ON THE INTENSITY OF ACIDITY OF THE URINE IN CHILDREN.\*

BY GEORGE KING, M.D., FALL RIVER, MASS.

(Cases taken from Children's Out-Patient Clinic, at Massachusetts General Hospital.)

UNTIL a few years ago it was ordinarily understood that the acid reaction of urine was chiefly due to the presence of di-hydrogen phosphates,

\* Read at a meeting of the New England Pediatric Society, Jan. 27, 1912.

but it has since been proved to be due to the presence of various acid radicals, as urine may be divided into two portions; one part consisting almost entirely of inorganic matter, including practically all the phosphates and having an alkaline reaction, and the other part no phosphates, but practically all organic substances with an acid reaction, which is due to the hydrogen ions in them; the acidity of any particular acid depending entirely upon the extent to which it may be dissociated into hydrogen ions.

By titration, the ordinary method employed in determining the acidity of urine, we learn the amount of hydrogen present which can be substituted by a metal or the acidity according to the older theory of di-hydrogen phosphates and not the true acidity or the ion acidity, which is caused by the concentration of hydrogen ions.

With this latter theory as a basis Von Rhorer and Höber have done some work according to the principles of the electrometric gas-chain method and have found for normal adult urine an average of 30.10-7 and 49.10-7 respectively, or that on an average the urine contains 30 to 50 gr. of hydrogen ions in ten million liters. From Höber's investigations it also follows that no direct relationship exists between the titration acidity and the ion acidity and that the extent of these two acidities may be independent of each other.

Lawrence J. Henderson, professor of chemistry at Harvard Medical School, through his recent investigation, has given us a method of determining the concentration of hydrogen ions with neutrality as a unit, this unit of concentration being 0.0000001 grams of ionized hydrogen per liter, or, as it is better written, 1.10-7 n.

Professor Henderson himself, through work on fifty normal adult urines by this method, obtained an average normal of 7.10-7 n.

His method of examination is by the use of a color scale which is made up of various known acid combinations and standard indicators, as shown by the following scale:

Nr.	(NaH <sub>2</sub> PO <sub>4</sub> )	(Na <sub>2</sub> HPO <sub>4</sub> )	(H.)	Indicator.
00	0.0010 n	0.0060 n	4.10-7 n	Neutralrot
0	0.0010 n	0.0023 n	1.10-7 n	
	(CH <sub>3</sub> COOH.)	(CH <sub>3</sub> COONa.)	(H.)	
1	0.0009 n	0.0020 n	2.10-7 n	p-Nitrophenol
2	0.0023 n	0.0020 n	5.10-7 n	
3	0.0046 n	0.0020 n	1.10-6 n	
4	0.0062 n	0.0020 n	2.10-6 n	
5	0.0230 n	0.0020 n	5.10-6 n	
6	0.0460 n	0.0020 n	1.10-5 n	
7	0.0920 n	0.0020 n	2.10-5 n	

Known solutions having a definite number of (H) ions as compared with neutrality as a unit, as follows, 0 being neutrality:

No.	1	2	3	4	5	6	7
No. 1:	2 $\frac{1}{2}$ times as many	(H) ions in concentration as neutrality.					
No. 2:	5	"	"	"	"	"	"
No. 3:	10	"	"	"	"	"	"
No. 4:	25	"	"	"	"	"	"
No. 5:	50	"	"	"	"	"	"
No. 6:	100	"	"	"	"	"	"
No. 7:	200	"	"	"	"	"	"

The procedure used is as follows:

Take nine 30 ccm. test tubes of equal size and shape and clean each thoroughly with distilled

water, and into each of these tubes put 20 ccm. of distilled water and number the tubes 00, 0, 1, 2, 3, 4, 5, 6, 7 as the known solutions have been numbered in the scale as shown.

Now one ccm. of known solution is put into the correspondingly numbered tube, and into those tubes marked from 1 to 7 inclusive two drops of para-nitrophenol as indicator, and into 0 and 00, three or four drops of neutral red as indicator, and each tube corked and your scale is ready for use, the acids being shades of yellow and the neutral and alkaline shades of pink. (Note: Those marked 1 to 7 will remain constant from one to two weeks, but those with neutral red only for a couple of days.)

The test with urine is now performed by taking two test tubes similar to those already used and into each put 20 ccm. of distilled water and 1 ccm. of the urine to be examined, then into one put two drops of P-nitrophenol as an indicator and into the other three or four drops of neutral red as an indicator.

(Note: If said urine is strongly acid to litmus paper, only the tube with P-nitrophenol is necessary, but if slightly acid or neutral to litmus, both must be used, as it may vary one way or the other on the scale which is more accurate.)

Now compare tubes with urine with the scale and decide what position said urine holds, as, for example, if it corresponds to No. 3, we have a urine with an acidity of 1.10-6n or a concentration of ten times the  $(H^+)$  ion concentration of neutrality.

From the results of my examinations by this method of the urines of seventy different children varying in age from three to fourteen, who came to the Children's Out-Patient Department of the Massachusetts General Hospital, —

The *normal* for a child would be placed on the scale from 0 to 2 with an average acidity of 2.10-7n or, as seems to me better,  $2\frac{1}{2}$  times the hydrogen ion concentration of neutrality.

The *slight variation from normal* or the slightly increased acidity, from 2 to 4 on the scale, or from 5 to 25 times the hydrogen ion concentration of neutrality.

The *pathological* or the intensely high acid from 4 to  $5\frac{1}{2}$  on the scale, or 25 to 75 times the hydrogen ion concentration of neutrality.

These results were taken from tables as tabulated below:

Cases as first seen.		After acute infection and treatment.		
00	4	00	4	
0 to 1	18	Normal	0 to 1	27
1 to 2	10		1 to 2	9
2 to 3	8		2 to 3	4
3 to 4	9	Slight variations	3 to 4	11
4 to 5	10		4 to 5	11
5 to 5½	11	Intense or Patholog.	5 to 5½	4

The normal comprised those cases that come to the hospital for vaccination or because of adenoids and tonsils, chronic endocarditis, chronic bronchitis and slight constipation; in other words, those which were normal or had old constitutional conditions. The slightly abnormal,

or those with but slight increase of acidity, comprised adenoids and tonsils, chronic pharyngitis, chronic laryngitis, chronic intestinal indigestion, Jacksonian epilepsy, moderate constipation and secondary anemia or chronic conditions. The intensely acid or pathological acute infections, as acute endocarditis, 5 cases; acute intestinal indigestion, 4 cases; acute nephritis, 3 cases; acute bronchitis, 2 cases; acute rheumatism, 1 case; impetigo contagiosa and tuberculosis, 1 case; acute balanitis, 1 case; bronchiectasis, 1 case; and enuresis, 14 cases.

You will notice that enuresis formed by far the largest number of my abnormal cases, but this was due to the fact that I was especially interested in this condition and that I received the co-operation of the school nurses, who brought such cases to me.

In only two of my cases of acute infection was I able to get more than one urine; however, I think these are worthy of notice.

CASE 1. J. M., age nine, a case of acute endocarditis and acute nephritis, when first seen had an acidity of twenty-five times neutrality, two days later thirty-five times neutrality, and twenty-eight days later, after a three weeks' stay in the hospital and when he was practically well, neutrality itself or a urine with normal acidity. No alkalis had been given in this case.

CASE 2. J. B., age twelve, acute intestinal indigestion, when first seen had an acidity of fifty times neutrality; four and five days later an acidity of two and one-half and five times neutrality, respectively, or practically a normal acidity.

These cases strikingly suggest that high acidity is an accompaniment of acute disease.

Let us now consider enuresis, which, by the leading authors of the day, Rotch, Holt, Koplik, Kerley, Cautley, is classed as a functional neurosis of the bladder in which the urine is passed involuntarily and, as a rule, at night, during the first hours of sleep, although it may be passed at other times.

The etiological factors given are numerous and varied, and are well grouped by Edmund Cautley in his 1910 edition of "Diseases of Infants and Children" as follows:

1. Malformations: as of the bladder and urethra, — spina bifida, spasm of detrusor muscle and paralysis of pubic nerves supplying the sphincters of the bladder.

2. Inflammatory affections, as phimosis, balanitis, cystitis, etc.

3. Urinary conditions, as polyuria, bacteriuria, phosphaturia, excess of uric acid and hyperacidity.

4. Conditions of nervous origin.

By all, enuresis is considered mostly as an accompaniment of diseases of the nervous system and relative to hysteria, and treatments are endeavors to alleviate these conditions, as by psychotherapy, various punishments or offers of rewards, dry suppers or regulation of amounts of fluids and occasionally drugs, as atropine, belladonna, strychnia and ergot.

Many authors merely mention the acid type, while some claim that in the more common form



the urine is neutral or faintly alkaline and of low specific gravity, and may contain triple phosphates or oxalates, and occasionally albumen and pus cells.

In my series of 14 cases of enuresis, all had a highly acid urine, i. e., from fourteen to thirty times as acid as the average normal for a child, and none were alkaline, none showed any evidence of malformations or local inflammatory affections, all urines were normal in all respects save for a high acidity, the specific gravity varying from 1007 to 1016 in all cases save one, where it was 1020 and 1025 on two examinations (fluids having been limited). Practically all had previously had the ordinary treatment with no definite results. All of these cases put on potassium citrate from 3 to 8 gr., four times a day, with definite improvement in all but one case, and this in a boy of thirteen who was a masturbator and showed no improvement of either condition.

The following are good illustrative cases:

**CASE 1.** Acute enuresis accompanying an acute bronchitis. Alice A., age five. History of sudden onset two weeks previous with a severe cold in chest and at the same time the beginning of bedwetting, which has persisted every night since. Physical examination showed a diffuse bronchitis and was otherwise negative. Urine was normal save for an acidity of thirty-five times neutrality. Put on k. cit., gr. 3, 4. i. d., and when seen four days later acidity was there and one-half times neutrality or normal, and there has been no enuresis during this time. Note received from mother three weeks later said that bedwetting had not returned, and medicine was stopped after one week because the cold was better.

In this instance the high acidity accompanying the acute infection was apparently the cause of enuresis.

**CASE 2.** Lila B., age fourteen, of Everett, where she had been treated by local doctors at various intervals for years.

*Physical examination.* — Absolutely normal healthy girl. Mother said they had done everything without relief, even to taking girl out of bed regularly at about eleven o'clock every night for five years.

She was first seen Dec. 1, when urine was negative save for an acidity of seventy times the hydrogen ion concentration of neutrality. Psychotherapy and regulation of fluids, etc., were tried until Dec. 9, with no improvement, patient still wetting every night. On this date was given potassium citrate, gr. 8, 4. i. d., and when she returned one week later, Dec. 16, four of seven nights had been free from wetting. The acidity of a sample of urine on retiring the previous night was neutrality itself, while this morning on arising it was ten times the (H) ion concentration of neutrality, or slightly acid.

The following week conditions were about the same, three of seven nights were free, but k. cit. had not been taken for two days, and the acidity was twenty-five times the (H) ion concentration of neutrality, or ten times the average normal.

Patient was again given k. cit., gr. 8, 4. i. d., and returned in two weeks, when the urine was strongly alkaline and only three of fourteen nights were free from bedwetting. K. cit. was then reduced to gr. 4, t. i. d., and during the next two weeks, i. e., Jan. 6 to 20, patient wet but two of fourteen nights, and urine was neutral, so k. cit. was omitted entirely and a note from mother six days later reported no wetting for the five nights without medicine.

**CASE 3.** Ida S., fourteen years. Always well save for enuresis since a child, wetting the bed practically every night for at least eight years. On Dec. 13, 1911, was seen in consultation with the Female Medical Out-Patient Service of the Massachusetts General Hospital, by whom she had been treated for three weeks with psychotherapy, atropine, belladonna and strychnia with no results. At this time urine had an acidity of fifty times the hydrogen ion concentration of neutrality and was otherwise negative. Physical examination negative throughout. Was given potassium citrate gr. 8, 4. i. d., and when she returned five days later had wet the bed but once. Three samples of urine brought at this time showed acidity as follows: No. I, a sample of total of previous day, was neutral; No. II, at bedtime, two and one-half times neutrality or normal; and No. III, this morning on arising, ten times neutrality, or slightly high.

Patient next seen eleven days later, during which time she had wet the bed but twice, acidity of urine being five times neutrality, and for the previous night on retiring, neutrality itself. Potassium citrate continued, and during the next twelve nights she wet five times, but urine on examination was found strongly alkaline, so potassium citrate was reduced to gr. 4, 4. i. d. Urine has not been seen since, but a note from mother seventeen days later said that the girl had wet the bed but two of the preceding fifteen nights.

Although in this case the enuresis had been reduced from every night to about once a week, I think it could have been eliminated if the amount of alkali had been so regulated that the urine was kept at normal acidity or about neutrality.

You will notice that in both of these cases the dose of potassium citrate given was at first more than enough to reduce the urine to normal acidity and, in fact, made it strongly alkaline with a return of the enuresis; also that when the enuresis was improved the urine was of normal acidity or about neutral, and that when severe it was either highly acid or highly alkaline.

A highly acid or a highly alkaline urine may, therefore, be a cause of enuresis, and I believe a more common one than is ordinarily supposed, undoubtedly being due to irritation of the sphincter of the bladder.

However, this treatment is probably only a palliative one and will not give a permanent cure, so our chief duty is to relieve the cause of the high acidity or alkalinity.

#### CONCLUSIONS.

- (1) Such a method as described will give the true acidity of the urine.
- (2) The technic is so simple that the tests may be performed by any one.
- (3) The results obtained are of practicable value at least in the treatment of enuresis.
- (4) The application of this test may be of great value in clearing up the relation of acidosis to diseased conditions.

#### THE RESPECTIVE SIGNIFICANCE OF REST AND EXERCISE IN THE TREATMENT OF PHTHISIS.

BY NEWELL B. BURNS, M.D., NORTH READING.

THE matter contained in the topics of this subject should herein be considered in order as each applies to disease respectively, first in its activity, and, secondly, in its quiescence. That is,

rest belongs very emphatically to the active stage of the disease, while exercise, properly regulated, is called for in the convalescence. It is the harder to realize this very necessary distinction in a chronic affection than in an acute illness when usually general prostration suffices to produce enforced rest, without argument on the part of the physician.

The importance of rest as a remedy to stay the progress of a disease like tuberculosis, and to limit its local extension at practically any stage, cannot be underestimated. If every person who is attacked by this illness could learn that pulmonary tuberculosis had gained a foothold in his body, and knew it within a few weeks of the onset of the disease, many would, undoubtedly, take immediate steps to overcome the activity of the disease process. Then, among those of the community constituted with a tubercular diathesis, there would be fewer afflicted with the actual disease, many more arrested, and many less advanced cases.

The fact unfortunately obtains that the onset of phthisis is so insidious, and the warning symptoms and signs are often so mild when the disease is in its incipency, that the future patient is wholly ignorant of his need to give up all exertion until the protective organisms in his body shall have destroyed the infecting germs. Such a patient goes on with his usual life, working hard daily, and busy probably twelve to fifteen hours out of each twenty-four, and meanwhile the inflammation is spreading unchecked through a larger and larger area of lung tissue until the initial "spot" has increased to many times its original size. This individual has used much strength in his daily labor, and consequently has little if any surplus with which to fight the illness. His exertions have stirred up the trouble, fanning a smoldering fire into flame, possibly causing some fever every night, and yet our future patient may not realize that which is going on inside. Then there comes a time, probably six to eight months after the earliest onset of the disease, when he is taken acutely ill with the "grippe" or a "bad cold" or "bronchial pneumonia," as he will tell you, but for this there is only one name, pulmonary tuberculosis. It is the first real danger signal that the man has approached, and he may still be unaware of the inflamed condition of his lungs. After a few days' rest in bed he feels much better, and may get up to resume his work, but the same happenings occur again, and sooner or later he finds that he has an advanced case of tuberculosis on his hands and must take a long rest.

The impressive conclusion of such an instance would follow that if the patient could have had ten days of absolute rest at the proper time many months before the final breakdown, the tuberculous focus, tiny and insidious at that time, would have been healed and encapsulated, thereby wiping out the danger of its future spread, all of which may serve to show the very great importance of rest in the incipient stage.

Some people are fortunate enough to find out

quite early that they are suffering from a chronic disease, as tuberculosis; they have their warning early and are fully advised of the grave dangers ahead. Their physician insists on rest as an absolute essential in going about a system of treatment. A number take their advice seriously, although they can hardly feel or see any material reason for doing so. They do not feel ill, and, accordingly, enforced rest may be entirely the opposite from that which they feel like undertaking. If they have sufficient patience, they carry out their line of treatment to a successful issue, and are finally told by the physician that the tuberculous focus has disappeared from the lungs. They are the most satisfactory cases of arrested tuberculosis, for they seldom if ever relapse. The patient may in later life wonder, possibly, if he really was affected with pulmonary trouble, and he may doubt the doctor's diagnosis, but it is more often true than not that the doctor was right, and, furthermore, that he, himself, was fortunate in having such a conscientious patient to accept his advice and to co-operate with his suggestions.

There are others in this same class who disregard advice, do not believe in the diagnosis, and are inclined to ridicule the idea of enforced rest when, as they say, they feel nearly as well as they ever did in their lives. They have had their warning and they have been told of the absolute need of resting, but with total disregard, they put all treatment, especially rest, aside and go on to an inevitable breakdown. Then rest is forced upon the patient whether he cares for it or not.

With an evening temperature of 100 plus, rest in bed is the only way to prevent the occurrence of still more troublesome symptoms. Any muscular or even increased mental activity at this time may cause further wasting in the body tissues, which, together with the action of the fever, produces the effect of "burning the candle at both ends."

It must be admitted that it takes rare perseverance to lie in bed day after day and to find the same old temperature every night. But there are patients, now ambulatory cases, who can remember that with rest in bed came gradual subsidence of the fever, disappearance of chills and night sweats, better appetite, and finally renewed strength. At the same time, on physical examination the stethoscope would reveal less moisture, a lessened inflammatory reaction, and stronger breathing in the sounder parts of the lung. Such a patient has been giving his constitution a chance "to catch up," and, by resting muscular and visceral tissues, has been putting them into a stronger condition to fight the disease. When a patient reaches convalescence the question of rest still deserves his earnest consideration. In the sanatorium this matter is well arranged for his benefit by establishing rest periods, retiring and arising hours, and stated intervals for remaining at meals. The regularity of his rest is thereby prescribed, and proves to be conducive to his steady improvement. For then with the

introduction of exercise he may, under such a routine system, gradually attain to five or six hours' active work daily without ill effect, and eventually be able to take up an outside occupation for eight or nine hours daily. The regulations and discipline of the institution will, of course, no longer operate directly for his good after discharge, but indirectly they teach him to follow habits of moderation whereby his body may expect regularly to obtain time in which full repair shall be made for whatever waste has taken place from the fatigue of labor. It is a gradual process of upbuilding that nature is effecting among the diseased tissues, and nature will be defeated if wear and tear are unregulated and allowed to encroach upon the allotted periods of rest. Accordingly, each individual should expect his physician's advice upon even the minutest details of his exercise, and should then heed it attentively, for whereas too much rest is usually easily remediable, a mistake in the matter of too much exercise might be irretrievable.

#### A METHOD OF RECORDING EXERCISE DATA IN A SANATORIUM FOR CONSUMPTIVES.

BY CARL C. MAC CORISON, M.D.,

*Superintendent of the North Reading State Sanatorium;*

AND

NEWELL B. BURNS, M.D., NORTH READING,

*Assistant Superintendent of the North Reading State Sanatorium.*

It is fast becoming recognized that in the treatment of consumption it is advisable to employ, in suitable cases, well-regulated exercise to increase the resistive powers of the body against the toxins of the disease.

It has been the policy at this institution since its opening in the fall of 1909 to employ work, well regulated and under the strict supervision of the physician, as a therapeutic measure, in the belief that by so doing we could build up the resistance of the patient and finally discharge him well hardened and fully prepared to go out and take up his former occupation. Thus far, no ill effects have been noted, while on the other hand certain patients well advanced in the disease have improved more rapidly under this line of treatment. At the present time we firmly believe that manual work, regulated and directed by the physician, is of great advantage to the convalescent patient. Furthermore, a public institution established for the purpose of caring for and treating the tubercular has an important responsibility in the matter of the discreet assignment of exercise to its convalescent patients. Advice is sought constantly of the sanatorium physician by his patients concerning the amount and kind of exertion which they may attempt, the queries ranging from that of the early convalescent, who wishes to begin exercise by taking a short walk, to the final question of the advisability of returning to his former occupation.

One who undertakes to meet this responsibility and to discharge it faithfully must have not only a clear understanding of the individual case

based on daily observation, but also a concise record of data always at hand for ready reference, this in order to intelligently direct the patient with a minimum risk of relapse and to advise him of his probable future working capacity.

The problems of exercise involved arise in three groups, and the need for discretion may be stated accordingly. In the first place, the early convalescent finds surplus energy accumulating with returning health, and he is anxious to seek exercise. Moreover, this patient, if exercise is properly advised and carefully regulated, seems to derive a benefit therefrom, and to convalesce more evenly and rapidly. Secondly, the case practically arrested will have attained to a number of hours of daily moderate exertion which he can perform without ill effect, and will then have a growing confidence in his ability to do more. Such a case may need either assurance, or caution, or an admixture of both, any of which his physician can give him by having a detailed record of his reaction and response to exercise as a patient. In the third place, there is the economic necessity, in that a certain amount of work about the institution can and should be done by patients, whose labor is available through the exigencies of the two foregoing groups. With these needs in mind, some method of supervision has always been desired, wherein, on the one hand, the effects of exercise, whether good or bad, upon the individual might be accurately observed and recorded, and, on the other hand, a method in which the patient would have full confidence and would co-operate by showing his enthusiasm.

Let it be said that in working among sanatorium patients to secure any certain object it is first important to arouse, in a sincere manner, their enthusiasm; otherwise nothing is gained. Hence, no small amount of effort has been made to devise a system to effect this end, and at the same time of practical and useful import. Accordingly, an attempt in this direction was made originally by running at the foot of the temperature and pulse chart an index in red, denoting the number of hours, and fractions thereof, of daily exercise. The base lines provided half-hour spaces from one-half to six hours daily. For a while this scheme seemed fairly satisfactory, for at a glance could be seen the patient's bi-daily temperature and pulse curve in conjunction with the work index. As manifested by temperature elevation, or increased pulse rate, an unfavorable indication would readily appear on this chart.

But there have appeared in convalescent cases on exercise earlier indications for a temporary rest or less exertion than would be shown by a change in the temperature and pulse curves. Heeding these early indications and taking measures accordingly have probably prevented a more prolonged relapse than if the patient was allowed to exercise until temperature elevation occurred. At any rate, these observations, many quite interesting, could not be made to appear in a practical way on the Work Chart, and, furthermore, would not be available for future reference unless recorded in a systematic manner.

To incorporate the features hoped for, there has been devised at the North Reading State Sanatorium a "Work Record" such as is presented herewith, and concerning which a few words may be given in brief explanation.

Under the first column heading, "Date," is given the day of the month of the conference and the dates of beginning, continuing or ending a certain line of exercise. Then columns for the description of the exercise prescribed, and the number of hours. In the weight column is given first the patient's usual weight before illness, his weight on admission, and opposite the date of conference his weight at that time. The "Cough and Expectoration" column provides for a description of the kind and amount of cough, with its increase or decrease, and the number of ounces sputum per twenty-four hours. The standard terms of use in the "Appetite" column are "excellent," "good," "fair" and "poor"; the same applying in the next column, "Digestion." Under "Malaise" is stated the presence, if any, of the various symptoms recognized by that general term, and their increase or subsidence between conferences.

Any extraordinary dyspnea is noted in the next to the last column, while the last column is left for "Remarks," under which a serious change in bi-daily temperature or pulse curve is immediately noted in red. However, this happens quite rarely, for the earlier signs properly observed and their significance noted indicate precautions which, if taken, preclude the occurrence of temperature elevation due to over-exertion. In making use of the record chart careful questioning of the patient at conference time is necessary, followed by consideration of the data noted, whereupon the physician may decide what shall be the future course of patient's exercise, and note accordingly under "Exercise." This system has been attempted since the first of the new year at the North Reading State Sanatorium, and while there is not yet sufficient accumulation of data upon which to draw definite conclusions, the immediate results have nevertheless been so satisfactory as to seem to justify a thorough trial of the method.

so favorable that we were led to experiment along the same lines to see if we could get the same results. The test as described by Russo gives a positive reaction in typhoid fever, measles, smallpox and sometimes in tuberculosis. It is performed by merely adding four drops of a one tenth of one per cent aqueous solution of methylene blue to four or five cubic centimeters of the patient's urine. The positive test is manifested by the urine, after thorough shaking, appearing green by transmitted light. It was claimed that boiling or the ingestion of such drugs as calomel, quinine, salol or caffeine would not affect the test. It was also said that as the disease advanced a returning blue color was a rather favorable prognostic sign.

Rolph and Nelson tried the test out on fifteen patients within forty-eight hours of entrance to the Toronto General Hospital. Thirteen of these gave a positive reaction, of which eight were negative to diazo and seven to Widal. The other two cases (of the fifteen) reacted negatively to all three of the tests. Of these, one gave a positive blood culture.

They also found that if bilirubin was present in the urine it gave a green color that was so nearly like the positive Russo that the urine would have to be discarded; also that the earlier in the disease the urine was examined, the more typical the reaction. The reason for the test was not found out, but it was supposed that it was a reduction test. They did not find that the return of the blue color was of any prognostic value.

The simplicity of the test, being such that it would be very efficacious in the hands of the general practitioner providing the results could be absolutely depended upon, led us to try it not only in cases of typhoid fever, but also in other diseases and in health. For this purpose samples of urine were collected from cases giving a positive Widal reaction at the Iowa State Board of Health laboratory, from cases in the University Hospital, and from the medical students of the university. In all, 118 samples were examined. The following table shows the results obtained.

#### NORTH READING STATE SANATORIUM.

Name

Case No.

#### WORK RECORD.

Date.	Exercise.	Hours.	Weight.	Cough and Expectoration.	Appetite.	Digestion.	Malaise.	Dyspnoea.	Remarks.

#### THE VALUE OF "RUSSO'S TYPHOID FEVER TEST."

BY ARTHUR L. GROVER, M.D., IOWA CITY, IA.

(From the Laboratory of Pathology and Bacteriology, Medical Department, State University of Iowa.)

ROLPH and Nelson<sup>1</sup> have lately published an article which gave their experiences with a typhoid test described by Russo.<sup>2</sup> Their results seemed

	Total number of examinations.	Now sick with typhoid fever.	Had typhoid fever in the past.	Never had typhoid (so far as known).	Have been vaccinated against typhoid fever.	Never vaccinated against typhoid.	Now sick with disease other than typhoid.
Reaction:							
Negative,	91	3	9	77	29	62	16
Positive,	27	5	2	22	7	20	10
Totals,	118	8	11	99	36	82	26

From the table it will be seen that our series consists of 118 samples of urine, of which 8 were taken from patients affected with typhoid fever, 26 were affected with other diseases, and the remaining 84 were taken from what seemed to be normal individuals. One of the eight typhoid cases was negative in the first week but became positive at the same time the Widal was positive. We called this positive in the table. One other gave a positive blood culture but a negative "Russo." The other six were in the second week of the disease.

The fact that eleven had previously had typhoid fever did not seem to have any particular bearing on the question. The proportion of positives in those who had never had typhoid fever was about the same as in those who had previously had it. Nor does vaccination against typhoid fever seem to have any particular bearing on the question.

Of the ten persons who gave positive Russo tests and who were affected by a disease other than typhoid fever, we found as hospital diagnoses: Chronic trachoma, carcinoma of superior maxilla, rhinitis sicca, appendectomy, deflected septum, depression of skull, dentigerous cyst, prolapsed uterus with endometritis, breaking adhesions of left maxilla, and one not given.

Of the sixteen negatives of those affected by some disease other than typhoid fever, we got as many different diagnoses as in the ten positive, so that nothing is to be gained from them. Only one of the positive urines gave any trace of bile.

On comparison, one urine from a student in perfect health at the time and since (two months) who had never had typhoid or been vaccinated could not be distinguished in color from one taken from a typhoid fever patient and reacting positive to the test.

Our conclusions are that although the test may be demonstrated in the urine of a large proportion of the typhoid fever cases, yet it may be demonstrated in such a large proportion of the urine of normal individuals that it is not a test that has any specific meaning or value as to the presence or absence of typhoid fever. When compared with the reliability of a blood culture it is worthless.

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<sup>1</sup> Some Experiences with "Russo's Typhoid Fever Test," by F. W. Rolph, A.M., M.D., Toronto, Ont., and W. Harper Nelson, M.B., Toronto, Ont. *Med. Rec.*, Aug. 19, 1911.

<sup>2</sup> Russo, in *Riforma Medica*. Quoted by Rolph and Nelson.

### Medical Progress.

#### PROGRESS IN INTERNAL MEDICINE: DISEASES OF THE HEART.

BY FRANCIS W. FALFRET, M.D., BOSTON.

(Concluded from No. 18, p. 671.)

##### SECONDARY HEART DISORDERS AND NEUROSES.

**SYMPTOMS** from the physical crowding of the heart whether normal or enlarged have been discussed by Herz<sup>157</sup> and others. These symp-

toms are said to occur especially from faulty habitual positions, from deformities of the chest, or from influences causing high position or deficient mobility of the diaphragm, as in obesity or distention of the stomach.

Herz<sup>158</sup> has attempted to describe individual groups of cases among the confused variety of patients with complaints commonly called cardiac neuroses. He distinguishes three types which seem to present definite symptom-complexes as follows: (1) Phrenocardia, occurring mostly in women and characterized by palpitation, pain in the region of the left nipple and a peculiar sighing or gasping inspiration attributed to hypertonicity of the diaphragm; unsatisfied sexual desire is set down as its chief or only cause, although this is disputed by Erb<sup>159</sup> and by Treupel.<sup>160</sup> (2) Hypotonic bradycardia, characterized by abnormally low pulse-rate and subnormal blood pressure, without cause in myocardial insufficiency, with asthenia as the chief subjective manifestation. (3) Cardiac hypochondriasis, where excessive self-observation has led to the conviction that heart disease is present. The last two types occur most commonly in men. Erb and also Treupel guardedly confirm the existence of the symptom-complex of phrenocardia, but question its sexual origin. Berman<sup>161</sup> and Morichan-Beauchant<sup>162</sup> are more fully in agreement with Herz's views.

#### TREATMENT.

The numerous articles dealing with the treatment of heart disease may be divided into two classes, — those discussing the actions of drugs, and those describing dietetic and mechanical methods. The first class has to do chiefly with digitalis and its derivatives and allies. The second class is dominated by hydrotherapeutic treatment.

The action of digitalis on normal and on diseased hearts has been the subject of somewhat startling conclusions. Mackenzie,<sup>4</sup> in his book, has expressed the opinion based on extensive clinical observation that the benefit derived from digitalis is constant and striking only in cases of absolute arrhythmia, and that it is on account of its effect in these cases that its general reputation in the treatment of heart disease has been won. Cushny,<sup>140</sup> whose authority on pharmacology is second to none, reports observations on patients in Mackenzie's clinic, and confirms the opinion of Mackenzie. He studied cases divided into two groups, the first comprising cases in which the dominant rhythm was normal, and the second composed of cases of auricular fibrillation or absolute arrhythmia, considering the effect of digitalis both in its action of producing inhibition by stimulation of the vagus nerve and also effects of direct muscular action. In the first class he found evidence of the vagus action in a diminution of rate in 30%, and inferred a direct muscular action in some instances. In the second class, in contrast, he found slowing in 90%. He suggests that the striking benefit in these cases of auricular fibril-

lation may lie in the protection of the ventricle against excessive stimulation from the auricle by an inhibition of conduction in the bundle of His. In therapeutic use of digitalis, therefore, the analysis of the pathological physiology shows that in diseased hearts in man conditions are present which render the older findings of pharmacological studies of the action of digitalis on normal animals inadequate as a basis for therapeutic indications, unless they are so brought into relation with the different properties of heart muscle that allowance can be made for different types of disorders of function. Aside from the effect of vagus stimulation, the actions of digitalis are stated by La Franca<sup>163</sup> in a report of investigations of this and other drugs as stimulating contractility, depressing excitability, and perhaps depressing the function of stimulus conduction. Edens<sup>164</sup> confirms the favorable influence of digitalis in absolute arrhythmia and its variable benefit in other types of heart disease. Hewlett and Baringer<sup>165</sup> discuss the irregularities which may result from the use of digitalis, particularly heart block. They mention, as do also Bachmann<sup>166</sup> and Meyer<sup>167</sup> in reports of cases, the fact that when heart block is already complete the use of digitalis, while it cannot produce increase in heart rate, may still give symptomatic improvement. Fraenkel and Schwartz<sup>168</sup> report failure to find effects of digitalis action in normal or in compensated hearts, and infer that these hearts are already acting at what they term the "optimal systole"; decompensated hearts, however, showed effects. In animal experiments Cloetta<sup>169</sup> was unable to find changes in normal hearts after continuous administration of digitalis even up to two years; in animals, however, in which aortic insufficiency was created, those given digitalis developed much less hypertrophy than those not given digitalis. Gelbart<sup>170</sup> in similar experiments fails to confirm these observations as to the hypertrophy, but his animals to which digitalis was given showed lower mortality and less severe symptoms than the controls. Miller and Matthews<sup>148</sup> found that in animals previously treated with strophanthus more extensive ligation of coronary arteries could be survived than in animals not so treated.

Thus on empirical grounds the facts seem established that digitalis is particularly indicated in absolute arrhythmia; that it may be of benefit in other insufficient hearts, but proves so less constantly; and that in complete heart block it may cause improvement of symptoms. On experimental grounds the possibility is suggested that the use of digitalis in fresh valvular lesions and in disorders of coronary circulation may increase tolerance to these disorders.

The efficiency of preparations of digitalis has been much discussed and the advantage of physiologically tested drugs has been clearly shown. Certain specially treated preparations have been brought out which have been reported upon by various authors. Notable among these is digipuratum, a standardized tablet said to contain all of the active principles of digitalis

with the exception of the undesirable digitonin. According to reports of Boos, Newburgh and Marks,<sup>171</sup> Muller,<sup>172</sup> Veiel<sup>173</sup> and Szinnebli,<sup>174</sup> it is an efficient preparation, and all of these except Veiel have found it much more free than ordinary digitalis from untoward effects particularly on the digestive system. Boelke<sup>175</sup> praises a similar preparation, digistrophan, combining digitalis and strophanthus.

For intravenous use, drugs of the digitalis group have been extensively employed, especially digalen and strophanthin. Etienne<sup>176</sup> has found that the equivalent doses of these, given by mouth and subcutaneously, are relatively as 2 to 1, and that the intravenous dose is one third to one fourth of the dose by mouth. As to strophanthin, the earlier opinions have been confirmed, namely, that it is an extremely efficient heart stimulant, acting with great rapidity, and useful in emergencies where some risk is justifiable, but since the danger of unfavorable action is a real one, the drug should not be used without realization that some risk is incurred.

Straub<sup>177</sup> has shown that where blood pressure is low in consequence of paralytic dilatation of splanchnic vessels, strophanthin is unable to raise it.

The influence of drugs on the coronary circulation has been studied by Bond,<sup>178</sup> and by Eppinger and Hess.<sup>179</sup> Both of their articles agree in the finding that adrenalin increases the diameter of the coronary arteries, although it is known to contract the arterial system in general. Bond found that salt solution infusions, and the inhalation of tobacco smoke, had a similar action, and Eppinger and Hess observed similar effect from ergotin. Bond made the somewhat unexpected observation that both amyl nitrite and nitroglycerin contracted the coronary circulation, while Eppinger and Hess found that sodium nitrite increased it, as also did atropine. The latter authors found diminution of the coronary circulation from cholin, from physostigmin, and from pilocarpine, and a contraction of all vessels from drugs of the digitalis group. John<sup>180</sup> protests against the general disfavor with which adrenalin is regarded as a stimulant, reporting a series of cases in which he believes death would have occurred except for its action. Riebold<sup>181</sup> urges more extended use of fluid extract of apocynum cannabinum, chiefly as a diuretic.

In syphilitic heart disease Weintrand<sup>182</sup> disputes the justification of Ehrlich's warning against the use of salvarsan. Weintrand has used it in 38 cases without untoward effects. Oigaard<sup>183</sup> emphasizes the importance of mercurial treatment; from iodides he has not seen evidence of benefit.

In the dietetic treatment of heart disease an interesting suggestion is that of Selig,<sup>184</sup> rendered more worthy of attention by the work of Eppinger and Knaffl,<sup>184</sup> already mentioned. Selig, basing his idea on the reasoning of Adamkiewicz (in itself not conclusive) that the heart is dependent for its energy chiefly upon nutrition supplied it



in the form of dextrose, and to little extent upon protein or fat, has been careful in his treatment of cases with insufficient hearts to furnish abundant amounts of sugar in the form of candy, chocolate or dates, and is enthusiastic in his advocacy of the measure. Kausch<sup>185</sup> has used solutions of dextrose intravenously and subcutaneously in conditions of exhaustion, especially in infectious diseases; he finds that a 10% solution can be given intravenously or a 5% solution subcutaneously entirely without danger in amounts of 1000 ccm. or more per day.

Etienne<sup>186</sup> has continued the advocacy of the salt-free diet.

In the treatment of pericarditis with effusion Alexander<sup>187</sup> has recommended the injection, after removal of fluid, of sterilized warmed air, to diminish the formation of pericardial adhesions.

Birrenbach describes a method of treatment in mitral disease by the use of an inhalation mask, twice a day for increasing periods, with the purpose of causing respiratory variations of pressure in the thoracic cavity. Herz<sup>188</sup> in describing the effects of oxygen inhalations in heart disease attributes the benefit chiefly to the breathing exercise accompanying the procedure.

There remains only to be mentioned the numerous publications on the subject of the bath treatment. In addition to the older CO<sub>2</sub> baths, oxygen baths, mud baths and electrical treatments in air have been employed. Critical estimates of their value are at variance, and rational explanations of their effects are still uncertain. Most of the articles coming from spa physicians are open to suspicion of biased opinions. Mackenzie<sup>4</sup> gives these methods little or no credit in the treatment of heart disease. Yet from the reports of benefit from patients, among whom are numbered physicians, as notably Lauder-Brunton,<sup>190</sup> it is hard to believe that in suitable cases the treatment is not of value.

This completes the general review of the literature of the heart and its diseases for the years 1909-11 inclusive. It may seem from the number of articles mentioned that this review is merely a summary of all that has been published without critical selection; but this is not the case. Many more articles have been omitted than have been included, and attempt has been made to include no articles except those which bear evidence of careful work and which contain statements of facts which are not of common knowledge, or of findings which are plausibly supported and which may be of important bearings. From the necessity of extreme condensation it has been impossible to do justice to the publications reviewed, but it is hoped that those interested will refer to the original text.

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## Reports of Societies.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

MEETING OF WEDNESDAY, FEB. 14, 1912, 8.30 P.M.

The President, DR. L. JAY HAMMOND, in the chair.

### SYMPOSIUM ON THE DIAGNOSIS AND TREATMENT OF PAIN IN THE UPPER RIGHT QUADRANT OF THE ABDOMEN.

#### THE DIAGNOSIS OF PAIN IN THE UPPER ABDOMEN.

DR. JUDSON DALAND: Pain in the upper abdomen is usually due to gallstones or a duodenal or gastric ulcer. Pain due to uncomplicated gallstones appears and disappears suddenly without warning, and may recur at intervals of hours, days, months or years. Gallstones may exist in the gall bladder without symptoms. If biliary colic recurs, or if chronic gastrointestinal indigestion and hepatic insufficiency persist, despite thorough medical treatment, surgical diagnosis and treatment are absolutely necessary and should not be delayed.

Pain in the upper abdomen may be due to cholangitis. Hyperchlorhydria or hyperacidity or both may cause recurring attacks of pain in the epigastrium closely simulating ulcer or biliary colic. The location of pain in gastric ulcer depends in part upon the location of the ulcer in the stomach. The nearer it approaches the pylorus, the greater the probability that the pain will be located low in the epigastrium, and occur four or five hours after a meal; whereas an ulcer in the fundus causes pain in the upper epigastric region soon after eating. The pyloric region is the favorite seat of ulcer and cancer. Chronic duodenal ulcer is more common than gastric ulcer and occurs more frequently in males than in females, according to statistics gathered at the operating table by Dr. William J. Mayo. Combined pyloric and duodenal ulcer have been observed. Chronic indolent duodenal ulcer may occur precisely as does chronic gastric ulcer and is accompanied by the same difficulties in diagnosis, the same dangers to life and requires the same prompt surgical treatment. The diagnosis of gastric carcinoma may be easy in hopeless, advanced cases with pyloric obstruction and tumor; difficult or impossible when complications occur, or when latent. An early diagnosis and prompt removal of a gastric carcinoma is the only measure that will save life. Any inexplicable persistence of recurrence of the familiar syndrome of chronic gastric indigestion, despite efficient medical treatment, de-

mands immediate surgical diagnosis and treatment. Time does not permit consideration of other causes of pain in the upper abdomen.

#### SURGICAL INDICATIONS OF THE RIGHT QUADRANT OF UPPER ABDOMINAL TROUBLES.

DR. GEORGE G. ROSS: To fully appreciate the value of pain of the abdominal organs, we must be familiar with the nerve supply to the organs themselves, as well as to the overlying abdominal wall, and the relationship which exists between them and the consequent reflexes which result. The treatment of acute gastric ulcer is distinctly medical. Hemorrhage must be controlled. Anatomical and physiological rest is to be secured by rest in bed and opium. Hemostatics do little or no good. Adrenalin may control bleeding for a while if brought into contact with the bleeding point. The consequent relaxation of the vessels, however, will encourage fresh bleeding. Fluid can best be supplied to the circulation by proctoclysis or hypodermoclysis. The intravenous transfusion of salt solution should not be employed until the bleeding point has been controlled because the consequent rise of blood pressure will encourage bleeding. Surgical intervention in acute ulcer is indicated in recurrence of bleeding or perforation of the ulcer. In chronic gastric ulcer radical operation is rapidly becoming recognized as the proper treatment.

In the vast majority of cases of chronic dyspepsia there is an organic lesion which will explain the trouble. Dyspepsia is a symptom and not a disease. The pain of ulcer presents several typical characteristics. It is present in the epigastrium, either to the left or right of the mid-line, depending upon the location of the ulcer; to the right in ulcer of the pylorus, either gastric or duodenal; to the left when nearer the body of the stomach. It is burning and aching in character and has a relationship to eating. The operative treatment of peptic ulcer of the stomach and duodenum depends upon its location.

It is a question whether the pain of biliary colic is due to the actual passing of the stone through the cystic or common duct or to the distention of the gall bladder and duct due to blocking of the lumen. In cholelithiasis we have two methods of procedure: (1) Cholecystostomy, with removal of the stones; (2) cholecystectomy. The latter procedure is attended with high mortality and should in my opinion be confined to the cases in which the gall bladder is functionless from cicatricial contraction, gangrenous or carcinomatous change.

#### THE CAUSES OF PAIN IN THE UPPER RIGHT QUADRANT OF THE ABDOMEN AS DETERMINED BY MEANS OF THE ROENTGEN RAYS.

DR. G. E. PFAHLER: This subject was illustrated by the demonstration of forty-nine lantern slides made from various patients who had, as a prominent symptom, pain in the right upper quadrant of the abdomen. It included most of the chronic conditions which might be a cause. The following conclusions were then drawn:

- (1) Practically all pathological conditions in the chest which may cause pain in the right upper quadrant of the abdomen can be demonstrated by Roentgen rays.
- (2) Subdiaphragmatic abscess can usually be demonstrated.
- (3) Biliary calculi can be shown in some cases.
- (4) Duodenal, gastric and colonic adhesions can

practically always be demonstrated by their effects on the position and movements of these organs.

(5) Gastric ulcer can only be shown when it has perforated, and can be suspected by spasmodic contractions which may be present in the stomach.

(6) Duodenal ulcer may be suspected if spasmodic contractions are present in the duodenum.

(7) Gastric carcinoma, I believe, can be almost always demonstrated.

(8) Renal calculus can be demonstrated in at least 98% with good technic.

(9) Renal abscess can often be demonstrated by combined cystoscopic and Roentgenoscopic examinations.

(10) Perinephric abscess can be demonstrated when it is large enough to produce a palpable tumor, or when it will displace neighboring organs.

(11) Colonic kinks and constrictions can be demonstrated.

(12) Each of the above conditions requires careful technic and careful study in the sequence of the various steps during the examination, and usually requires not only a fluoroscopic examination but a number of plates.

### Book Review.

*The Growth of Bone.* Observations on Osteogenesis. By WILLIAM MACEWEN, F.R.S. Glasgow: James Maclehose & Sons. 1912.

This monograph, which is further described on the title-page as "an experimental inquiry into the development and reproduction of diaphyseal bone," represents the author's typically Scotch dissent from the conventionally accepted physiologic teaching that all periosteum produces bone and that diaphyseal bone cannot be produced without periosteum. To test the truth of this dogma, he instituted a series of experiments, from which he believes he has demonstrated that "diaphyseal osteoblasts are generated from the nuclei of the diaphyseal cartilage cells; the diaphyseal cartilage is but a phase in the evolution of the bone cell; diaphyseal bone is reproduced by the proliferation of osteoblasts derived from pre-existing osseous tissue and its regeneration takes place independently of the periosteum, which is of great use in limiting within specific boundaries the distribution of the osteoblasts, but has no osteogenic function." Whether or no the author may be considered to have proved his point, his experiments are well conceived, detailed, carried out and finely illustrated with 61 admirable plates. If his contention be correct, the surgical desirability of preserving periosteum as a limiting membrane remains the same. Bare bone, however, need not necessarily be regarded as dead, or certain to die, and its intrinsic regenerative properties may give a more hopeful prognosis to certain serious bone lesions. Macewen's book deserves careful reading as a piece of original experimental investigation in bone physiology and its bearing on surgery.

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101 TREMONT STREET, BOSTON, MASS.

## BROWNING'S CHARACTERIZATIONS IN MEDICINE.

On Tuesday of this week, May 7, was celebrated the centennial anniversary of the birth of Robert Browning. There was little in his ancestry, as there was much in Tennyson's, to suggest a prophecy of greatness. Yet Browning stands justified to-day as one of the last and greatest of the Victorians. Like all geniuses he has been over-praised and over-condemned. Chiefly he has been censured, and perhaps with most justice, for his obscurity; yet this very fault is the result, or rather symbol, of a virtue, for it represents rapidity of thought and compactness of expression. Because he did not speak always in terms of obviousness, he is accused of being obscure; but at least he avoided the vice of those whose style is clear on account of its dilution. So in reading Browning one should realize that he is always to be taken seriously, that in his verse "more is meant than meets the eye." Already the day is past when the study of Browning belongs to a mere cult. He has become the property of the world, and his work is a thing for sane, everyday folk to enjoy and profit by.

It might seem that there were little in Browning's life to bring him in contact with other professions than those of art. The versatility and profound subtleness of his genius, however, led him to the most intimate intellectual sympathy with all mankind, and he probably understood the ways and thoughts of others better than many who speak of them more freely. There is evidence of this in two of his poems, the only two in fact which deal to any extent with the profession of medicine.

The first of these is the metrical epistle, pub-

lished in 1855 in the first volume of "Men and Women," "containing the strange medical experience of Karshish, the Arab physician." The letter is written to Abib, another physician, who, like Karshish, is —

"inquisitive how pricks and cracks  
Befall the flesh through too much stress and strain."

It describes the writer's journey to Jerusalem, with many digressions which afford interesting sidelights on him and his time, as of the "viscid choler observable in tertians," of "Judæa's gum-tragacanth," and of "a man with plague-sores at the third degree." At Jerusalem Karshish meets Lazarus, the story of whose miraculous revival interests him. He explains it medically as

"a case of mania, — subinduced  
By epilepsy, at the turning-point  
Of trance prolonged unduly some three days,"

but is evidently much impressed by it, nevertheless, and so recounts the tale at length to Abib. The story is of a far-away time, no doubt, and is told with an ethical purpose; yet it catches to perfection the skeptical, inquiring, but serious attitude of the physician in the observation of a half-supernatural phenomenon, which, however, he is sure must have a natural cause even though it have also a spiritual meaning.

The second of Browning's medical poems is "Doctor Bottinius," generally suppressed now in all but complete editions of his works; yet with an apologue which is to the point for all that. It was first published in 1880 in the second series of "Dramatic Idyls." This doctor is endowed by Satan with the power to see Death by the bedside when others do not realize its presence. This faculty gives him unerring skill in prognosis, as a result of which he reaps great fame and temporal reward, and is hailed as "Machaon redivivus." The story is simple, with a fantastic turn at the end, but vividly told, and, however uncomplimentary may seem the diabolic source of the doctor's success, it nevertheless typifies excellently enough the sometimes uncanny nature of the physician's knowledge, and the power given to the practitioner by his experienced ability to see and understand where to others there is nothing of significance.

Browning, then, in his relations with the medical profession, deals less with persons than with temperament and attitude. Though we do not owe to him the creation of a single individual character of our persuasion, we do owe him two subtle characterizations of certain aspects of the type of mind developed in medicine.

## THE FUTURE OF HOSPITAL SOCIAL SERVICE.

THE recently published fourth annual report of social service work at the Massachusetts Charitable Eye and Ear Infirmary records the activity of this department during the year ending in October, 1911. The work has been concerned largely with the study of ophthalmia neonatorum, visiting and relief, industrial accidents, loans on eyeglasses and home hygiene in phlyctenular conjunctivitis. The class for ocular tuberculosis reports also the care of one hundred cases.

Particularly significant are the words of the head worker with regard to the "problems of sex diseases": "Corrective work at best is disappointing and expensive; but in this particular department of social work, . . . it has especially failed." In other fields of endeavor the success of social service has been marked, and the help which it has rendered to physicians as well as to patients is unquestioned. Its problem is essentially still the old one of trying somehow to teach the other half of the world how to live. For the fearlessness and zeal and faith with which the workers have attacked this time-old question they deserve the sincerest praise.

What will be the future of the hospital social service movement probably no one can now surely predict. That social service will always have a legitimate place in the work of a hospital there seems little doubt. As time goes by, however, it seems clear that social service, at least as at present organized, does not solve the whole problem. Its acknowledged failure in the case of venereal diseases is an instance in point. This, however, need by no means be cause for discouragement. The sex problem, with all that it involves, is one on which the wisdom of many centuries has made less impression than on any other of the besetting perplexities of life. The realization, as indicated in the present report, that social service is not a panacea, is a very hopeful sign. Perhaps in time, as the author of the report believes, its most important functions will "be absorbed in the larger medical sociology." This sounds like a "consummation devoutly to be wished." Meantime, however, the "larger medical sociology" is still in a somewhat inchoative and nebulous condition; and until it has further emerged and shaped itself out of the chaotic mists of its genesis, the social service must remain one of the valuably helpful, even though imperfect agents of hospital activity.

## THE SHIP'S DOCTORS OF THE TITANIC.

It has been learned this week that Dr. J. E. Simpson, second medical officer aboard the *Titanic*, died at his post in the recent disaster to that ship. He was the only son of Dr. John Simpson, of Belfast, and graduated as M.B. from the Royal University of Ireland in 1903. After practicing his profession for a time near London, he entered the naval medical service. Reports of survivors ascribe to him the same cheerful courage and devotion as that of the ship's surgeon, Dr. O'Laughlin, to whom we referred editorially in last week's issue of the JOURNAL.

Dr. Simpson went down with the ship, like his superior officer, and equally deserves honorable mention for faithful and gallant conduct. The heroism of these two physicians, though no more than their recognized duty, is worthy cause for gratitude and gratification to the profession whose representatives they were and to whose ideals they were so loyally true. Not every man can die under dramatic circumstances which call forth widespread knowledge and recognition of his bravery; but every one has it in his power, in one fashion or another, to live and to die heroically, and the examples to do so should be perhaps the greatest lesson to the world from the *Titanic* disaster.

## VIS MEDICATRIX SOLIS.

HERE in New England, where weather is like Fortune's wheel, our spirits rise or fall with every change. We respond to it according to our natures, different in some respects, alike in others; rejoicing in the bright, clear cold of winter, the vigorous walks in the open with head erect, while the weakling seeks shelter from the biting wind; and in the summer's heat the fat man sweats and swears while the thin one takes his ease: but mankind one and all love the gentle radiance of spring. Then pleasant words are on all lips; then anger, sorrow, care and pain fly to the closets of the mind, for sunshine is to them as light to darkness or as fire to frost.

But when the sultry south wind soughs among the elms and rain clouds spread dark wings across the sky, the very air turns heavy, lifeless, sad. Our hearts respond to this and strong minded is he who does not show the change in face and mien. What wonder then if old pains revive and nervous doubts return?

In the dispensary on such a day the doctor treats a desolate throng. Old hearts and lungs that should have stayed for better weather re-

turn to have their medicine renewed, the hypochondriac to be re-examined and to change the dose, the invalid to hear a word of cheer. In all that sullen crowd is there one man who says the treatment did him good?

Medicine for the weather: that is what they need! If it is not in the bottle, is it in the physician? It is not the drug that will be tried this day!

#### MEDICAL NOTES.

**EXPEDITION TO STUDY MALARIA.** — On April 20 there sailed from New Orleans, La., for Central America, an expedition sent out for the study of malaria, under the direction of Dr. Charles Cassedy Bass, from the department of tropical medicine and hygiene of Tulane University.

**BACTERIOLOGIC DIAGNOSIS OF CHOLERA.** — In a reprint (No. 75) from the public health reports Dr. H. D. Geddings submits a translation of the recent report of the French Cholera Commission to the International Office of Public Hygiene. This is followed by a discussion and historical review. The whole constitutes a useful summary of present knowledge on the bacteriologic diagnosis of cholera.

**PHILIPPINE MEDICAL COLLEGE.** — The recently published second annual catalogue and announcement of the University of the Philippines presents the calendar and program of instruction in the several departments for the academic year 1912 to 1913. The College of Medicine and Surgery is about to begin its sixth year of activity with a larger number of courses and students than ever before. Particular attention is called to the clinical facilities of this school: "During the last year more than 50,000 patients passed through the hospitals under its control."

**HOOKWORM INFECTION IN FOREIGN COUNTRIES.** — A recently issued publication (No. 6) of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease presents an admirable study of "Hookworm Infection in Foreign Countries," alphabetically summarized by continents and nations. "Hookworm infection belts the earth in a zone extending from parallel 36° north to parallel 30° south; practically all the countries lying between these parallels are infected." The total population of these countries

aggregates 940,000,000, nearly two thirds of the inhabitants of the globe. The location of infected areas is indicated on a series of six outline maps.

**UNITED STATES VACCINATION LAWS.** — A recently published bulletin (No. 52) of the United States Public Health and Marine-Hospital Service presents "An Analysis of the Laws and Regulations Relating to Vaccination in Force in the United States," by Assistant Surgeon-General J. W. Kerr. Dr. Kerr discusses successively the history of national and state legislation on vaccination, the status of existing laws and regulations on the subject, and certain court decisions relating thereto. An appendix summarizes the present federal and local laws, court decisions, and the foreign vaccination laws of Cuba, England, France, Germany, Italy and Japan. This publication may be interestingly compared with Kirchner's, which was reviewed in the issue of the JOURNAL for Aug. 24, 1911 (vol. clxv, p. 297).

**SEQUEL OF THE BERLIN POISONING EPIDEMIC.** — In the issues of the JOURNAL for Jan. 4 and 11, we noted the occurrence in Berlin of a remarkable series of cases of poisoning, at first supposed to be due to the ingestion of spoiled herring, but later traced to the consumption of brandy adulterated with methyl alcohol. In this epidemic over one hundred persons died. Investigation by the Berlin Health Department led to the arrest of a druggist, two salesmen, and two saloon-keepers. Their trial, which began on March 26, terminated on May 4, with the conviction of all. The druggist was sentenced to five years' imprisonment for manslaughter. The four others were convicted only of fraud in violation of the pure food laws and were sentenced to brief terms in jail. The lightness of the druggist's punishment is due to the belief that his act was not committed with intent to kill.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, April 23, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 23, scarlatina 29, typhoid fever 1, measles 150, smallpox 0, tuberculosis 72.

The death-rate of the reported deaths for the week ending April 23, 1912, was 17.96.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, May 4,

1912, was 224, against 260 the corresponding week of last year, showing a decrease of 36 deaths, and making the death-rate for the week, 16.32. Of this number 115 were males and 109 were females; 218 were white and 6 colored; 135 were born in the United States, 85 in foreign countries and 4 unknown; 62 were of American parentage, 142 of foreign parentage and 20 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 36 cases and 3 deaths; scarlatina, 27 cases and 1 death; typhoid fever, 4 cases and 0 deaths; measles, 142 cases and 4 deaths; tuberculosis, 90 cases and 24 deaths; smallpox, 1 case and 0 deaths. The deaths from pneumonia were 32, whooping cough 1, heart disease 34, bronchitis 1. There were 18 deaths from violent causes. The number of children who died under one year was 26; the number under five years, 48. The number of persons who died over sixty years of age was 70. The deaths in hospitals and public institutions were 78.

**MEDFORD VISITING NURSE ASSOCIATION.**—The annual meeting of the Visiting Nurse Association of Medford, Mass., was held in that city on May 6. The principal address on this occasion was by Dr. Frank L. Morse, of Somerville, Mass.

**APPOINTMENT OF ADDITIONAL SANITARY INSPECTORS.**—It is announced that the Boston Board of Health appointed last week eight additional sanitary inspectors for this city, at an annual salary of \$1,000 each.

**ENLARGEMENT OF MALDEN HOSPITAL.**—The annual meeting of the corporation of the Malden (Mass.) Hospital was held in that city last week. Plans were discussed for the enlargement of the institution by the erection of a new obstetric ward, at an estimated cost of \$25,000.

**ALPHA OMEGA ALPHA.**—On Wednesday of next week, May 15, Dr. Frank S. Meara, professor of therapeutics at the Cornell Medical School, will deliver an address at the Harvard Medical School, at 4 P.M., before the Harvard Chapter of the Alpha Omega Alpha Fraternity, on "The General Practitioner: an Idealization."

**BEQUESTS BY THE LATE DR. FRANCIS BACON.**—The will of the late Dr. Francis Bacon, of New Haven, Conn., who died on April 26, was filed on May 3 for probate. It contained bequests of \$5,000 to the New Haven General Hospital, \$10,000 to the Connecticut Children's Aid Society

and \$100,000 to the New Haven County Anti-Tuberculosis Society. Yale University is made residuary legatee of the estate, which is valued at \$400,000.

#### MILK AND OLEOMARGARINE FINES IN BOSTON.

—Before the Suffolk Superior Criminal Court last week two large milk firms of Boston were fined an aggregate of \$315, one for having in its possession milk from which the cream had been removed and to which water had been added, the other for having in its possession, with intent to sell, milk to which sugar had been added.

Before the local police court, twelve Boston milk dealers were also last week fined from \$10 to \$20 each for selling milk below the standard required by law. Before the same court another dealer was fined \$10 for selling oleomargarine without a license to do so, and another was fined \$20 for selling oleomargarine to two customers without proper notification.

#### MASSACHUSETTS COMMISSION FOR THE BLIND.

—The recently published fifth annual report of the Massachusetts Commission for the Blind records the work of that board for the year ending Nov. 30, 1911. During this period the field worker has had in her care 315 blind persons under twenty years of age in 96 cities and towns. A great deal also has been done for blind adults in the way of supervision, relief, instruction in handicrafts whereby they may become self-supporting and provision of employment by which they may get such work to do. Much work of great importance has been carried out in the prophylaxis of ophthalmia neonatorum and in the conservation of vision. Altogether the Commission has been in touch this year with 876 blind persons, to 464 of whom it has been of especially material service. An appendix to the report presents a special study of the almshouse group of blind patients.

**MASSACHUSETTS DENTAL SOCIETY.**—The annual meeting of the Massachusetts Dental Society was held in Boston last week at the Harvard Dental School. The annual address was delivered by the retiring president, Dr. Eugene H. Smith, of Boston. Among other papers read were one by Dr. W. T. Reeves, of Chicago, on "Porcelain Work"; one by Dr. William H. Potter, of Boston, on "A Method of Teaching Dental Hygiene by Stereopticon"; and one by Dr. William P. Cooke, of Boston, on "The Prevention and Control of Dental Caries, its Relation to the Economic, Political and Professional Considerations."



tion of the Dental Nurse." At the closing session, the following were elected officers of the society for the ensuing year: President, Dr. Michael W. Flynn, of Pittsfield, Mass.; secretary, Dr. A. Harriman St. Clair Chase, of Everett, Mass.; and treasurer, Dr. Joseph T. Paul, of Boston. The next annual meeting will be held at Boston in May, 1913.

**HARVARD MEDICAL ALUMNI ASSOCIATION.** — The following program for Wednesday, May 22, has been arranged by Drs. H. C. Ernst and M. J. Rosenau, acting as a committee appointed by the president of the association:

The demonstrations will be given in the amphitheater of Building D, Harvard Medical School.

3 P.M. Dr. Herbert B. Howard: "A Brief Outline of the Peter Bent Brigham Hospital." With lantern slides.

3.15 P.M. Dr. S. B. Wolbach: "The Possibilities for Instruction and Investigation in Tropical Diseases in Northern Climates." With lantern slides.

3.30 P.M. Dr. F. G. Benedict: "The Carnegie Nutrition Laboratory; its Work — especially a Recent Experiment on Prolonged Fasting." With lantern slides and demonstration of the patient.

3.45 P.M. Dr. Howard T. Karsner: "The Function of the Experimental Method in the Course in Pathology."

4 P.M. Dr. R. W. Lovett: "The New Children's Hospital." With lantern slides.

4.15 P.M. Dr. E. E. Southard: "The New Psychopathic Hospital." With lantern slides.

4.30 P.M. Dr. M. J. Rosenau: "The Department of Preventive Medicine and Hygiene, and the Degree of Dr.P.H."

4.45 P.M. Dr. E. E. Tyzzer: "The Huntington Hospital and the Scope of its Work." With lantern slides.

At 5 P.M. the members of the Association are invited to inspect any of these departments or hospitals that may be of interest to them.

#### NEW YORK.

**DECREASING DEATH-RATE.** — For the twelfth successive week the death-rate of New York City was lower in 1912 than in the corresponding period in 1911, the "record" year. The rate for the week ending April 27, 1912, was 15.42, against 16.55 for the week ending April 29, 1911. This represents a difference of 1.13 points, equivalent to 112 deaths in favor of 1912.

In only three of the seventeen weeks of 1912

has the death-rate been higher than in the corresponding week of 1911. Comparing the entire periods of seventeen weeks the rate this year is 15.80 as against 17.13 in 1911, a decrease of a point and a third.

**ANNUAL CONSUMPTION OF FOODSTUFFS.** — At a hearing on May 3 before the New York State Food Investigation Committee, figures were cited indicating the amount of certain foodstuffs consumed annually in New York City. During the year 1911, 30,000,000 pounds of cheese and 72,000,000 pounds of butter were required to feed the appetite of the inhabitants of that municipality, and the total consumption of eggs was over 1,300,000,000. It was also stated that there are at present in the city 319,800,000 eggs in cold-storage warehouses. It is fairly obvious that the amount of food consumed by a large city must be enormous, but these figures at first glance quite appall the imagination.

**FULGURATION TREATMENT OF EPITHELIOMA.** — At the New York Skin and Cancer Hospital, on April 24, Dr. William Seaman Bainbridge reported that since the visit to the institution of Dr. De Keating Hart, of Paris, in December, he had treated by the latter's fulguration method more than forty cases of cancer in which cutting operations were impracticable, and that the results had been most encouraging. At the same time, he said, it would be premature to speak positively now, as it would not be until after three years had elapsed that the final results could be judged.

**NEW YORK POLYCLINIC HOSPITAL.** — The funds for the erection and equipment of the new building of the New York Polyclinic Medical School and Hospital, just occupied, were subscribed in answer to appeals made by the president, Dr. John A. Wyeth. The largest contributor was William P. Clyde, head of the Clyde steamship line, who gave \$250,000. Mrs. Helen Hartley Jenkins subscribed \$125,000, and others who made large gifts were Mrs. George J. Gould, Mrs. Andrew Carnegie, and Mrs. Clarence H. Mackay. The hospital contains three hundred beds.

**RESPONSIBILITY FOR SANITATION OF TENEMENTS.** — That the owner, and not the person holding the lease, of a tenement house is responsible, and must see that the sanitary conditions in the property are in conformity with the tenement-house laws, was the declaration of the Appellate Division of the New York Supreme

Court in a decision handed down on May 3. This opinion came through an appeal taken from a judgment of the Municipal Court to the effect that the two owners of a certain tenement house were not responsible for the violation of the sanitary regulations for such property, since they had leased the building to another party. By this decision the owners are rendered liable to a fine of \$250.

**HOSPITAL SUNDAY ASSOCIATION.**—On April 30 the distributing committee of the Hospital Saturday and Sunday Association divided its annual collection. This, after the deduction of expenses, amounted to \$95,000, the largest sum in the history of the association, although the Sunday in which the collection was made in the churches was a very stormy day. In the awarding, the institutions receiving the greatest amounts, based on the number of free days of treatment given, were as follows: General hospitals,—Mount Sinai, \$7,789; St. Luke's, \$6,821; German, \$4,678; Roosevelt, \$3,863; New York Post-Graduate, \$3,376; Lincoln, \$3,181; Lebanon, \$3,046; Beth Israel, \$2,597. Special hospitals,—New York Orthopedic, \$5,487; Hospital for Ruptured and Crippled, \$3,589; House of Rest for Consumptives, \$1,741; New York Eye and Ear Infirmary, \$1,804; Skin and Cancer Hospital, \$1,287; Manhattan Eye, Ear and Throat Hospital, \$1,080. For women and children,—St. Mary's Free Hospital, \$3,757; Misericordia Hospital, \$2,927; New York Lying-In Hospital, \$2,585; Nursery and Child's Hospital, \$2,031. For convalescents and incurables,—Montefiore Home and Hospital for Chronic Invalids, \$9,500; New York Home for Incurables, \$2,519; House of the Holy Comforter, \$2,152.

**ENLARGEMENT OF COLUMBUS HOSPITAL.**—In consequence of the large increase in the Italian population in its vicinity, the Columbus Hospital, in East 20th Street, has found it necessary to enlarge its capacity, and the Missionary Sisters of the Sacred Heart, under whose auspices the institution is maintained, have decided on the erection of a new wing. The building which has been occupied by the Columbus Hospital for the past twenty years is the one in which the New York Post-Graduate Medical School and Hospital began its work.

**ANNUAL CHARITABLE EXPENDITURES.**—According to a statement given out on April 30 by the Bureau of Analysis and Investigation of the

State Board of Charities, the aggregate expenditures of the public and private charitable institutions in New York state subject to the supervision of the board now amount to more than \$24,000,000 annually, and are increasing at the rate of over \$1,000,000 each year. "Approximately 2% of the state's population," it is stated, "receives institutional support, while another 2% is given public outdoor relief. There can be no doubt that a large proportion of the money expended for charitable purposes by public and private agencies is required for the maintenance of defectives and hereditary paupers, for the best authorities declare that more than one third of the whole number of persons in the dependent class are mentally defective, and that 25% of the inmates of reformatory institutions are feeble-minded by inheritance. There are about 30,000 feeble-minded persons in the state of New York, of whom 4,000 are intermittently sequestered, while 26,000, who are a menace to society, are at liberty and may reproduce the unfit."

## Current Literature.

### MEDICAL RECORD.

APRIL 27, 1912.

1. KILIANI, O. *Personal Observations on Wassermann's Experiments on Mouse Tumors.*
2. HARE, H. A. *The Importance of Remembering that All Pulmonary Physical Signs are Not those of Tuberculosis.*
3. WOODRUFF, C. E. *Athletic Superiority of Our New Stocks.*
4. JACOBS, W. A. *Chemical Constitution and Physiological Action.*
5. SMITH, M. M. *Pellagra.*
6. HUNT, E. L. *Overwork and Fatigue in Relation to Nervous Prostration.*
7. \*EISING, E. H. *Injection of Paraffine for Incontinence of Urine Following Trauma to the Urethra.*
8. LOCKWOOD, J. F. *Pure Air by Diffusion.*

7. Eising discusses the obstinate symptom of dribbling urine in the female after childbearing. Incontinence in these cases is due to damage done the muscular coats of the urethra during labor. The symptom makes its appearance when the patient first gets up. It is generally aggravated by the increased intra-abdominal pressure due to corsets. The writer reports two cases in which he obtained excellent results with the submucous injection of paraffine, parallel to and along the urethra. One injection was sufficient in one case, three in the other. In both there was considerable local reaction,—pain and swelling,—but the end result was perfect bladder control. Ordinary commercial paraffine was used. [L. D. C.]

### NEW YORK MEDICAL JOURNAL.

APRIL 27, 1912.

1. \*ABBOTT, E. G. *Correction of Lateral Curvature of the Spine.*
2. ASHLEY, D. D. *Abbott's Method of Correcting Fixed Lateral Curvature.*

3. OGILVY, C. *Rotary Lateral Curvature upon the Report of Results Obtained.*
4. NUTT, J. J. *Exaggerated Lordosis in the Adult.*
5. SCHATZ, W. J. *A Physical Exercise for the Correction of Lumbar Lordosis.*
6. SHAFFER, N. M. *The American Orthopedic Association; Its Organization.*
7. JUDD, E. S. *Observations on the Present Status of Surgery for Cancer of the Breast.*
8. SONCHON, E. *A Plea for a Reform in University Education.*
9. CUMSTON, C. G. *A Short Outline of the Medical Career of Maître François Rabelais.*
10. BERNART, W. F. *Intravenous Injections of Carbolic Acid in Tetanus.*

1. Abbott describes his treatment of scoliosis in an exhaustive illustrated paper. His method is concerned only with fixed lateral curvature. The two fundamental principles underlying the correction of this deformity are, first, overcorrection, and, second, fixation in the overcorrected position. The method of the writer is the first one which has made it possible to apply these principles. It is based on the theory that the concave side has swung forward in a circle to the right, while all previous efforts have been founded on the idea that there was rotation backward of the convex side. The method of applying the plaster reduces the twisted spine and its rotated vertebral bodies to the normal position by the same route through which they moved into the position of deformity.

[L. D. C.]

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.  
APRIL 27, 1912.

1. PARK, R. *Thanatology. A Questionnaire and a Plea for a Neglected Study.*
2. \*WIEL, H. I. *Angioneurotic Edema: A Series of Cases with Clinical Observations.*
3. COOK, H. W. *The Value of Periodic Physical Examinations.*
4. \*HEINEMANN, P. G. *The Dietetic and Therapeutic Value of Fermented Milk Prepared from Commercial Ferments.*
5. \*MURPHY, T. B. *Contribution to the Surgery of Bones, Joints and Tendons. (To be continued.)*
6. ROSANOFF, A. J. *The Inheritance of the Neuropathic Constitution.*
7. INGALLS, E. F. *Myocardial Degeneration.*
8. SMILEY, O. *Acne Vulgaris Treated by Autogenous Vaccines. Report of One Hundred Cases and Method of Procedure.*
9. SILVERBERG, M. *The Peri-Urethral Complications of Stricture.*
10. HUTCHENSON, J. M. *A Case of Pancreatic Glycosuria.*
11. FLINT, J. M., AND KELLNER, C. *A New Preservative for Pick-Kaiserling Specimens.*
12. PRINCE, E. M. *A Case of True Hermaphroditism.*
13. AMBERG, E. *Spontaneous Tympanomastoid Exenteration.*
14. WHITE, D. *A Case of Pellagra in New England.*
15. BROWN, C. H., AND SCOTT, W. G. *Oxalic Acid Poisoning.*
16. MINNICH, C. S. *A Treatment of Gastric Ulcer.*
17. RHOADES, R. L. *Malformation of Female Genitals.*
18. WYATT, B. L., AND BUCKNER, K. L. *Ruptured Tubal Pregnancy with Operation.*
19. SINGLETON, A. D. *Report of Case of Dermatitis Noxialis in Man.*
20. GARDNER, S. T., AND CUMMINS, W. T. *Prostatic Carcinoma in a Youth.*
21. DAVIS, D. J. *Relation of Varieties of Streptococci with Especial Reference to Experimental Arthritis.*

2. Wiel's paper on angioneurotic edema is of unusual interest in the cases he reports.

4. Heinemann states that if Bulgarian sour milk is to be used it should be used as a part of the usual diet.

5. Murphy states that it is his conviction that every type of non-traumatic joint inflammation is a metastatic manifestation of a primary infection in some other portion of the body. It is his further conviction that there is no idiopathic rheumatic arthritis any more than there is an idiopathic peritonitis.

[E. H. R.]

BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

APRIL, 1912.

1. VERWORN, M. *Narcosis.*
2. CUMSTON, C. G. *A Brief Notice of Felix Platter, with Extracts from His Manuscript Memoirs Preserved at the Library at Bale.*
3. \*KOPLIK, H. *Tuberculosis in Infancy and Childhood.*
4. STRAUSS, A. *The Effect of the Prevention of Laking on the Catalytic Activity of the Blood.*
5. NET, G. C. *Pin-Worm Appendicitis.*

3. Koplik, after a few general remarks, discusses "predisposition to tuberculosis." He believes that there is such a predisposition, but that it is not confined to tuberculosis but to all infections and that children in their infancy are practically all infected with this disease and that "the disposition to contract infant tuberculosis is even present in every child." The greatest incidence of infection seems to lie about the fourth to the sixth year of life. He next discusses the frequency of tuberculosis in infancy and childhood, approaching it from the clinical and pathological points of view. He gives a general review of the first authenticated statistics on the subject from various observers. He believes that infection from tuberculous milk is rare, but that infection from the alimentary tract with tubercle bacilli from tuberculous individuals or other sources is the commonest mode of infection. He goes on to discuss 209 cases of various forms of tuberculosis which had come under his observation during the past five years divided as follows: Meningitis, 158 cases; pleurisy, 23 cases; lungs, 17; peritoneum, 8; other organs, 3. He goes over the clinical features of these cases in a most interesting way. He thinks that an estimate that 50% of pleurisies in infancy and childhood are tuberculous is a conservative one. In diagnosis he considers the various tubercular reactions. Prognosis he considers distinctly bad in young children, but the older the child, the better becomes the prognosis. He closes with an urgent plea for further separation of infants and children from tuberculous parents and other sources of infection. The paper is a most instructive one.

[J. B. H.]

ANNALS OF SURGERY.

FEBRUARY, 1912.

1. \*MAYO, C. H. AND McGRATH, B. F. *Parathyroids and their Surgical Relation to Goitre.*
2. \*BERNHEIM, B. M. *Arteriovenous Anastomosis — Reversal of the Circulation — as a Preventive of Gangrene of the Extremities.*
3. \*HORSLEY, J. S. *Notes on the Technic of Suturing Blood Vessels with a New Instrument.*
4. BOOTHBY, W. M., AND EHRENFRIED, A. *A Note on the Division and Circular Suture of the Aorta in Pregnant Cats.*
5. ELSBERG, C. A. *Observation upon a Series of Forty-Three Laminectomies.*
6. \*MONTGOMERY, D. W., AND CULVER, G. D. *Prophylaxis and Treatment of Epithelioma of the Lower Lip.*
7. \*McWILLIAMS, C. A. *Acute, Spontaneous Perforation of the Biliary System into the Free Peritoneal Cavity.*
8. RICHARDSON, M. H. *The Error of Overlooking Ureteral or Renal Stone under the Diagnosis of Appendicitis.*
9. WILSON, L. B. *Note on the Mesotheliomata (so-called Hypernephromata) of the Kidney.*
10. LERCHE, W. *The Surgical Treatment of Diverticula of the Urinary Bladder.*
11. WILSON, G. H., AND WARTHIN, A. S. *Primary Tuberculosis of the Penis.*

1. Mayo and McGrath believe that hemorrhages into the parathyroids are of positive significance in the causation of tetany, that the mechanism of labor may play an important part (Erdheim), that deficiency of valves in parathyroid veins may also contribute (Haberkfeld), and that the hemorrhages antedate the tetany. Glands in which previous hemorrhage is shown by blood pigment

may not hypofunction until another factor enters (gastro-intestinal disease, pregnancy). Of 3,203 operations on the thyroid at St. Mary's Hospital, only one showed signs suggestive of tetany. The case is described.

2. Bernheim gives a brief description of 46 cases from the literature to which he adds 6 cases, of which 2 anastomoses were in one individual. His results may be judged: Successful, 4; failure, 1; doubtful, 1. Of the 52 cases reported to date, 15 have been successful. He believes lateral anastomosis will be the operation of choice in the future and prefers his own method which preserves the distal part of the artery as far as it is patent.

3. Horsley's instrument for suturing blood vessels is a steel rod,  $\frac{1}{8}$  in. in diameter, bent at an angle of 55° and flattened thin at the bend so as to produce a light spring. The arms of the instrument, 6 in. and 1  $\frac{1}{2}$  in. long, are provided with buttons to which guy-sutures may be secured by two turns. The advantages claimed are uniform tension of guy-sutures, no trained assistant required, and the removal of clamps and approximation of two arms (permitted by spring at bend) readily detects any leak which can be repaired by tightening clamps and releasing pressure on two arms.

6. The authors emphasize that epithelioma of the lower lip is secondary to a seborrhea, which may be marked or require a lens for its detection, and that this seborrhea apparently runs from one corner of the mouth to the other. The only logical operation, therefore, is removal of the entire mucous surface of the lip. They have used the curette and trichloroacetic acid with satisfaction.

7. McWilliams in an exhaustive contribution on acute spontaneous rupture of the biliary system in the free peritoneal cavity gives epitomies of 108 cases from the literature and adds 6 cases (2 of which were his). He considers the properties of bile, etiology and site of perforations, presence of stones (74%), frequency of occurrence (29 of 3,180 biliary operations, 0.9%), age, sex, symptoms and diagnosis, errors in diagnosis, prognosis and operative results. There is a steady increase in mortality from 14.3% operated within twelve hours to 80% operated at four days; 51.8% recovered. Suture of perforation with abdominal drainage, 4 of 5 died; tamponade of biliary region, 11 of 21 died; cholecystostomy, 19 of 49 died; cholecystectomy, 17 of 33 died. McWilliams agrees with Cotte, Arnaud and Mayo in favoring cholecystostomy in cases where there is little sepsis and cholecystectomy in grave cases with severe infectious cholecystitis, ulcerative or gangrenous. Robeson, Moynihan and Summers hold absolutely opposite view. [T. W. H.]

#### THE LANCET.

APRIL 6, 1912.

1. \*ADAMSON, H. G. *Goulstonian Lectures on Modern Views upon the Significance of Skin Eruptions. Lecture I.*
2. \*BAIN, W. *Pharmacology and Therapeutics of Lecithin and Phytin.*
3. BRUNTON, L., AND WILLIAMS, W. G. *A Case of Angina Abdominis.*
4. BUZZARD, E. F. *Acute Poliomyelitis and Allied Conditions.*
5. WALTON, A. J. *Congenital Malposition of the Gall Bladder.*
6. THOMPSON, H. T., AND SINCLAIR J. *Telegraphists' Cramp. Part II.* (To be concluded.)

1. In this lecture Adamson considers skin eruptions due to physical injuries to the skin, eruptions due to invasion of the skin by micro-organisms and their treatment by vaccines and other methods.

2. Bain concludes from his researches that lecithin is a valuable drug in anemia and debility; its beneficial effect on the nervous system is secondary to improvement in the general nutritive condition. Its most striking effect is seen in the blood. He finds no evidence that phytin (inosite phosphoric acid ester) is of any value. [J. B. H.]

APRIL 13, 1912.

1. ADAMSON, H. G. *Goulstonian Lectures on Modern Views upon the Significance of Skin Eruptions. Lecture II.*

2. \*INMAN, A. C. *A Contribution to the Study of Secondary Infections in Pulmonary Tuberculosis.*
3. \*LANG, B. T. *Corneo-scleral Trephining.*
4. WATSON, D. *The Treatment of Condylomata Acuminata.*
5. TATLOW, E. R. *Three Consecutive Cases of Carcinoma of the Jejunum.*
6. THOMPSON, H. T., AND SINCLAIR, J. *Telegraphists' Cramp. Part III.*

2. This paper from such an authority as Inman is of distinct interest. He calls attention to the present divided opinion among physicians as to the rôle played by secondary infection in phthisis. He reviews the previous work on the subject, especially that of Ortner, who goes so far as to say that there are two distinct pathological processes in any given case of tuberculosis — the formation of tubercles and the development of pneumonic processes. He believes that from Ortner's work and others, many wrong conclusions were drawn. It is not sufficient merely to recover an organism from the sputum in addition to the tubercle bacillus to say it is a secondary infection and the cause of symptoms. In his investigation, cases are grouped as follows. Group 1: Resting febrile. Group 2: Ambulant febrile, resting afebrile. Group 3: Ambulant afebrile. Group 4: Working afebrile. Each group is subdivided into three subdivisions: (a) Infection by tubercle bacillus and secondary organism. (b) Infection by tubercle bacilli alone. (c) Infection by secondary organisms alone.

He describes his technic which except for estimating the opsonic index by Wright's method is very simple. His results are given in a long series of thirty elaborate charts. He concludes that in nearly every case of open tuberculosis of the lungs the tubercle bacillus is the predominant infecting agent; blood examinations show that secondary infections do occur, especially in the "resting febrile" cases. The temperature chart alone cannot determine the presence or absence of a secondary infection. In febrile cases a consideration of the morbid anatomy of advanced tuberculosis and of the uncontrolled auto-inoculations spontaneously occurring, precludes the hope of successful specific treatment against the secondary infection.

3. Lang describes in detail his operation for corneo-scleral trephining. [J. B. H.]

#### BRITISH MEDICAL JOURNAL.

APRIL 6, 1912.

1. \*RIVIERE, C. *A Lecture on the Action of Tuberculin and Its Application to the Treatment of Different Forms of Tuberculosis.*
2. \*LEES, D. B. *A Third Series of Twenty Cases of Pulmonary Tuberculosis Treated by Continuous Antiseptic Inhalation.*
3. \*EWART, W. *On Perez's Sign; and Audible Motor Crackles.*
4. \*GORDON, W. *The Influence of Strong Prevalent Rain-bearing Winds on the Course of Phthisis.*
5. SAMWAYS, D. W. *The Genesis of the Dicrotic Pulse Wave.*
6. SILBERBERG, M. D. *A Note on Blood-Pressure Readings in Cases of Auricular Fibrillation.*
7. CAMERON, J. A. M. *Calcareous Degeneration of the Myocardium.*
8. SHAW, T. B. *Results of the Treatment of Syphilis with Salvarsan, at the Royal Naval Hospital, Haslar.*

1. In this short article Riviere discusses the action of tuberculin on normal individuals, the production of tuberculin sensitiveness by mild infections with tubercle bacilli and the tuberculin reaction, local, constitutional and particularly focal. In localized tuberculosis the effect of tuberculin is seen at its best; it here causes a focal hyperemia in which the increased antibodies cause a marked tendency to healing. In phthisis, however, the case is different as here the patient may be already overwhelmed by his own tuberculin. He discusses the use of tuberculin in these cases with special reference to the opsonic index. In those patients who get symptoms only on exertion, or who get no symptoms when on a full day's

work, the question of tuberculin and its dosage is an easy one; but when patients get symptoms of auto-inoculation even at rest it is often inadvisable and dangerous to give tuberculin except in the minutest doses and with the greatest care.

2. Lees reports twenty more cases of phthisis treated by his method of continuous antiseptic inhalation. He uses a classification peculiar to himself, speaking of 2-3 apices of the lungs, making no mention of pulse or temperature. Of these twenty cases two died, one did badly, two were only slightly relieved, one was a heart case in which the evidence of tuberculosis was not striking, one had no clinical signs but only an x-ray diagnosis, two were slightly relieved and four were apparently very early cases. (Taking this into consideration these last twenty cases do not tend to alter the now generally accepted opinion that as a cure for pulmonary tuberculosis the part played by continuous antiseptic inhalation is practically nil. J. B. H.)

3. Perez's sign consists essentially in the production of sounds audible over the upper thoracic surface on actively or passively moving the arms at the shoulder joint and particularly on raising or lowering them. This sign is of value in certain joint disorders, but also of equal importance as bearing on the early diagnosis of tuberculosis which the occurrence of these really joint or peri-articular sounds might suggest. Movements of the scapula over its aponeuroses are the commonest examples of this. Garrod divides these sounds into three groups: Intra-articular, peri-articular and tendon sounds. The French school in particular has made a careful and detailed study of this subject. Ewart believes that in order to avoid mistakes in diagnosis every patient should be tested in this way by moving the arms and shoulders up and down either actively or passively. This is the finest point we have in the early diagnosis of articular conditions and in pulmonary suspects he is strongly of the opinion that our apical results, whether positive or negative, should be put to this test.

4. Gordon gives figures to confirm his previous views that strong prevalent rain-bearing winds exert an influence not only on the prevalence but also on the course of phthisis. [J. B. H.]

APRIL 13, 1912.

1. FOTHERGILL, W. G. *A Clinical Lecture on the Precise Relationship of Cystocele, Prolapse and Rectocele, and the Operations for their Relief.*
2. RENTON, J. C. *A Clinical Lecture on Gastro-Enterostomy.*
3. IVENS, F. *Retroversion of the Uterus Treated by Sullivan's Round Ligament Ventrisuspension.*
4. TURNBULL, A. E. *Twin Monsters with Acute Hydranios.*
5. ANDREWS, H. R. *Rupture of the Uterus with Expulsion of the Fetus into the Abdominal Cavity.*
6. BEDDARD, O. *A Suggestion for Treatment of Certain Forms of Coccydynia.*
7. \*WATSON, G. W. *On the Causation of Parenchymatous Nephritis.*
8. BOWEN, E. O. *Pyonephrosis: Operation; Recovery.*
9. CREW, F. D. *Acute Pyelonephritis Complicating Pregnancy.*
10. BOYD, S. *Foreign Bodies in the Vermiform Appendix.*
11. WILSON, C. *On Threadworms in the Vermiform Appendix.*
12. HOSFORD, A. S. *Foreign Bodies in the Intestine.*
13. VERLEY, R. C. *Observations on an Infant Fed with Barley Water and Cow's Milk.*
14. HARLEY, V. *Boracic Acid Poisoning.*
15. EDWARDS, A. *Acute Epididymitis Produced by Muscular Strain.*

7. Watson in a somewhat general way discusses the causation of parenchymatous nephritis, going over the onset of symptoms, calling attention to the fact that it may exist without symptoms, discussing the age incidence, its relation to infectious fevers, lead, alcohol, sepsis, cold and damp and excessive muscular work. He draws the following conclusions, to some of which at least many physicians will take exception. Acute nephritis is not a common disorder; the great majority of cases recover completely, and, therefore, the prognosis is good. The diagnosis of acute primary nephritis can seldom be made with certainty

during the acute attack and, therefore, a prognosis cannot be safely given until after an interval of a few weeks at least. [J. B. H.]

WIENER KLINISCHE WOCHENSCHRIFT. No. 16.

APRIL 18, 1912.

1. KRAUS, R., AND ISHIWARA, K. *The Behavior of Embryonic Cells with Serum of Healthy Men and Carcinoma Patients.*
  2. FRÜHWALD, R. *The Question of Infectiousness of the Blood of Syphilitics.*
  3. MERKURIEW, W. A. *Demonstration of Arsenic in the Urine after the Employment of Salvarsan.*
  4. \*HINTERSTOISSER, H. *Lost Gauze Compresses.*
  5. SKORCZEWSKI, W., AND SOHN, I. *The Behavior of Atophan in the Organism.*
  6. ADLER, O. *Carcinoma of the Colon with Repeated Passage of High-Seated Tumors with the Stools.*
  7. TORNAL, J. *A New Transillumination Apparatus.*
4. Hinterstoisser reports four personal cases of lost sponges in the abdomen, and collects one hundred and twenty-one others from the literature. An illustration represents the fate of one of these sponges. The article is a valuable contribution to the history of foreign bodies in the abdominal cavity. [R. M. G.]

REVUE DE CHIRURGIE.

APRIL, 1912.

1. LUCAS-CHAMPIONNIÈRE, J. *Lord Lister.*
2. \*DELBET, P., HERRENSCHMIDT, A., AND BEAUVY, A. *Chloroformization and Suprarenal Capsules.*
3. QUÉNU, E., AND MATHIEU, P. *Critical Study on Fractures of the Ankle. (Conclusion.)*
4. \*BÉRARD, L., AND ALAMARTINE, H. *Contribution to the Study of the Anatomic Classification of Thyroid Tumors.*
5. NADAL, P. *The Notion of Mixed Tumor.*
6. GLASSTEIN, I. M. *Contribution to the Treatment by Means of Arteriovenous Anastomosis of Gangrene of the Lower Extremities of Arteriosclerotic Origin.*

2. The authors' experimental researches were undertaken to determine the fixation of chloroform by the suprarenal capsules, the action of chloroform on the fats of the suprarenal, and the action of chloroform on the chromaffin substance and adrenalin. They conclude therefrom that prolonged chloroformization induces considerable changes in the suprarenal capsules. These changes involve both the cortex, whose fat is modified perhaps in nature, probably in quantity, certainly in topography, and the medulla, whose chromaffinity and adrenalin diminish and even disappear. Clinically they undertook to see if the suprarenal insufficiency following chloroformization could not be usefully combatted by injections of adrenalin. As a result of experience of over two years in more than one thousand patients, they believe that the subcutaneous administration of adrenalin, in doses of 0.4 mgm. (which may be repeated up to 1 mgm. in twenty-four hours) is of enormous post-operative advantage, in that it regulates narcosis, diminishes and in the majority of cases suppresses operative shock, and probably prevents occasional deaths from suprarenal insufficiency.

4. The authors submit a new classification of thyroid tumors, based on a division into mesobranchial and branchial groups. Their article is well illustrated with photomicrographs, case histories and a bibliography. [R. M. G.]

ANNALES DE L'INSTITUT PASTEUR.

MARCH 25, 1912.

1. BERTRAND, G., AND COMPTON, A. *Influence of Temperature upon the Activity of Emulsine.*
2. \*DELANOE, P. *Importance of Phagocytosis in the Immunity of the Mouse to Some Flagella.*
3. GSYLEWICZ, T. *The Agglutinines and Sensitizing Substances in Dysenteric Serum.*
4. \*DE GASPERI, F. *The Negative Phase of Wright in the Antityphoid Vaccination of Young Rabbits.*
5. VIALO, J. *Note upon the Natural Refractoriness of Rabbits towards Rabies.*

2. Delanoe has worked upon the question of immunity in mice towards different types of trypanosomes and the nature of the immunity. He finds that mice normally have an immunity towards several varieties including the *Leishmania tropica* and infantum and the *Trypanosome rotatorum*, noctuæ, scardinin phoxini, Therleri and vesper-tilionis. The method of immunity is by means of phagocytosis which occurs in the peritoneal cavity. In the case of the *T. Lewisi* there is some natural immunity by phagocytosis but this is not confined to the peritoneum, but extends throughout the body. A few mice can be infected by this parasite. The mice that can be infected gradually acquire an immunity of the same type.

4. De Gasperi as a result of the study of the negative phase following vaccine inoculation believes that there is following the first injection a negative phase lasting from two to four days. This negative phase occurs again after the second and third injections, but is less marked in severity and duration. In antityphoid vaccination of young rabbits the degree of opsonic power seems to move hand in hand with the immunity acquired. [C. F., JR.]

### Obituary.

WILLIAM OGLE, M.A., D.M., F.R.C.P. LOND.

DR. WILLIAM OGLE, who died at London on April 12, was born in 1827. His father was Dr. John Ogle, sometime Regius professor of medicine at Oxford University. The son was educated at Rugby and at Corpus Christi College, Oxford. After taking his medical degree at Oxford, Dr. Ogle settled in the practice of his profession at London, where he soon became assistant physician to St. George's Hospital and lecturer on physiology in its medical school. In 1872 he retired from general practice to accept an appointment as medical officer of health for South Hertfordshire, where he continued until 1880, when he was appointed chief of the statistical department of the General Register Office, London. This position gave him opportunity to devote himself to the study of vital statistics, and to his work there is due his chief reputation. He essentially remodeled the methods of the British Census, and to him are due many important changes in the recording and interpretation of vital statistics, which have been adopted throughout the civilized world. In 1893 he served also as a member of the Royal Commission on Metropolitan Water-Supply. He is survived by his widow, but was childless.

### Correspondence.

#### PARIS LETTER.

[From Our Special Correspondent.]

"PRIMUM NON NOCERE."

PARIS, April 16, 1912.

Mr. Editor: The older a physician grows, and the more his experience increases in the abnormal effects that nearly every drug produces in human beings now and then, the greater becomes his respect for the time-honored adage that I have placed at the head of this letter.

In the surgical days that preceded the Listerian era patients sometimes succumbed to septicemia following such trifling interventions as tooth-drawing, circumcision or the opening of an abscess; it has always seemed to me that

if I had been an operator in those days, with these awful possibilities always hanging over my head, I could not have had the courage to continue my career, but should have abandoned it and turned to something else. For if sepsis could carry off the patient who had merely had a tooth out, no very great effort of the imagination is required to picture to oneself what the state of affairs must have been in major surgery. I am old enough to have just seen the tail end of that reign of terror. We had here, when I began my medical studies, two "die-hards,"—surgeons who absolutely refused to admit the light of day, and who, in spite of everything they saw going on about them, and of all they read in foreign medical journals, kept on in the old manner, operating and dressing their patients exactly as their predecessors had done before them. Any one who remembers the wards of Léon Lefort, at Necker, and of Desprès, at the Charité, during the eighties, will understand what I mean. We students used to go there once in a while and follow the rounds, just to see how things ought not to be done.

In medicine, it is true, matters are not so bad as they used to be in surgery. It was common in old times for an operator to have the appalling conviction that his interventions had been the direct cause of a patient's death; in medicine this is certainly unusual,—though it happens, all the same. A physician was called to see an infant a month old suffering from acute coryza; he prescribed mentholated vaseline, 2%, to be introduced into the nostrils. The moment the mother did this the child was seized with dyspnea and cyanosis, and succumbed inside of ten minutes. This, you will admit, is even more dramatic than to die from septicemia after tooth extraction.

I have now seen so many instances of idiosyncrasy for drugs, that although I have always been a strong non-interventionist in the matter of medicines, have always given simple and not compound prescriptions, and usually feel my way with the small and repeated dose method, I have come to have such a fear of the *materia medica* and of the possibility of meeting a non-tolerant patient, that I simply cannot imagine what the druggists of this town must think of some of my prescriptions, in which they find chalk or sodium bicarbonate in homeopathic doses rubbing elbows with unheard-of plant infusions, the whole edulcorated with the rarest syrups and accompanied with minute and detailed directions for administration. For we are, alas, making but slow progress in getting the public to let us have our own way in the treatment of the sick; the majority of people still insist on having something colored in a bottle, as the outcome of a doctor's visit.

To cite some of the instances I have seen, let me begin with our trusty friend calomel. When I was a hospital student here the ordinary dose was 10 gr. Then I learned that in England it was not customary to give more than from 3 to 5 gr. After that came the American triturates,  $\frac{1}{10}$  of a gr. with sodium bicarbonate. Now you would have thought that if people could stand 10 gr. as a current dose they would have been able to stand the drug in fractions of  $\frac{1}{10}$  of a gr. without trouble; yet here is what once happened to me. I advised a lady of about forty to take ten of these triturates at intervals between 4 and 7 P.M.; to then dine very simply; and to swallow a saline laxative the first thing next morning. The result of this was a very serious case of mercurial poisoning, with profuse salivation, fetid breath, loose teeth, etc., that lasted fully a month and gave us no little amount of anxiety and preoccupation. And yet, these triturates now hold a very prominent place in family medicine. No medicine-box, fitted out by the careful physician at home, do I see among traveling families without its bottle of calomel triturates, which are administered by fond parents to the various members of the family *larga manu*. For there is nothing your ordinary mother dotes on more than to physic off her own fat, without a medical man's advice. I have also met with two women with whom sublimate douching after confinement was quite impracticable, even in solutions of  $\frac{1}{1000}$ ; one of them was taken each time with fetid diarrhea, the other with a skin eruption looking like erysipelas except that it was not raised, and that nearly scared me to death until I heard that exactly the same thing had occurred to her once before in confinement and had been considered to have been caused by the sublimate injections. And I



need scarcely call attention to the many and grave accidents that have followed the hypodermic use of the insoluble preparations of mercury in syphilis. I still shudder when I think of the complacent manner in which I used them at a certain period, relying on the statement of Fournier and Besnier that a calomel injection was the most marvelous treatment at our disposal in a serious case. I dare say it is! When your patient survives, no doubt it will cure any syphilitic incident that is susceptible of cure; but the chances of his dying from the injection itself are so many that I, for my part, beg to be excused. Incidentally I may say that I saw in a paper recently a recapitulation of *fifty-five* deaths from the new salvarsan treatment. I ask myself whether the men who use this remedy in ordinary cases with such a light heart would consent to any one injecting it into their own veins.

Passing next to other drugs I need only refer to the laryngeal edema caused every now and then by small doses of potassium iodide; and yet, over here there is no self-respecting physician who in a case of arteriosclerosis does not come forward with his prescription of this drug, to be given in small doses during long periods, so many days each month. And our former panacea antipyrin! The great epidemic of influenza of our times, the one that took place in December and January, 1889-90, coincided with the heyday of antipyrin; fever and pains, particularly the latter, were the cardinal symptoms of that disorder, and it is useless to try and deny that this drug did settle those pains in very short order. But antipyrin has such a depressing effect on heart action, and such an inhibitive action on kidney secretion, that I heard a very distinguished man here say once that he was inclined to think that during that deadly pandemic more people succumbed to the administration of antipyrin than to the disease itself! From having once been dissolved in every drop of the physician's fountain pen, antipyrin has now practically passed into oblivion, on this side of the water at any rate.

Even such an old reliable as sodium salicylate is not above suspicion, although administered in solution, well diluted, and in small and frequent doses. A member of my own family, who was trying to get the upper hand of an attack of lumbago by means of this remedy, was taken with the most alarming symptoms of heart collapse and dyspnea that lasted for several hours and that, from the patient's own account, were uncommonly unpleasant. Another patient, to whom during its brief career I had given an ordinary dose of exalgin with apparently good results, repeated the treatment on her own account while traveling later in England and had a very disagreeable experience indeed, the symptoms also being, so far as I could gather from her account, those of cardiac collapse; anyhow, she returned to town a badly scared and more prudent woman. Still another one was thoroughly upset by some caffeine given hypodermically, and yet another by an injection of cocaine in the sole of the foot. And so on I could go, with many other instances of poisoning with the most current and supposedly harmless drugs, given to persons in regular amounts and in the classical manner.

All this, of course, I knew, and, as I said above, I have on that account become a remarkably circumspect person, from a drug standpoint. But I must confess that when I picked up a paper the other day and read a carefully written article on the dangers and misdeeds of menthol I was surprised, one of the first phrases reading: "I accuse menthol of being always open to suspicion, often dangerous, sometimes fatal"; I should have about as soon thought of suspecting Pond's extract or Listerine of serious crimes! I am not *familiar* with the little details of medical practice at home; but over here menthol has long held a very prominent place among the placebos, the remedies one prescribes in order to appear to be doing something and to give the complaint time to run its course. This is particularly true of the catarrhal complaints of the nose and throat, in which it forms the main element of innumerable snuffs, sprays, vapors and salves. I have a preparation that I have given on countless occasions, that amuses the patients and is very pleasant to use:

Menthol,	1.
Tinct. of benzoïn,	15.
Alcohol,	30.
M.	

You fill a little glass medicine-dropper tube with this, and in the other hand you take a vessel like a finger-bowl with about an inch of hot water in the bottom; you then let the menthol preparation fall drop by drop, very slowly, on the surface of the hot water, where it volatilizes instantly, and in the meanwhile you inhale the vapor through the nostrils deep down into the air passages. The success and agreeableness of this treatment depends on the distance between the bowl and the nostrils, the more acute and inflammatory the process, the farther away should the vessel be held; the right range is obtained when the inhalations are pleasant but do not smart or burn. But let no one have any illusions on the subject: this treatment is merely pleasant, and gives the patients the satisfaction of doing something, — it does not cure anything at all. I have used it a number of times myself, and am really not sure but that it actually prolongs the complaint. What happens is this. The inhalations first cause a very rapid and pleasant vaso-constriction of the vessels of the pituitary mucous membrane, and nasal breathing consequently becomes freer; so when the contents of the dropper are exhausted the séance is generally discontinued. But soon afterwards there follows a stage of vaso-dilatation that is correspondingly disagreeable, and it is not at all demonstrated to me that this species of capillary gymnastics does the coryza any good.

But whatever may be the truth about this, the fact remains that the use of menthol over here has been something enormous, so that the reading of Dr. Leroux's indictment of this drug awakens a feeling of utter astonishment. However, there is no disputing his facts, and his case summaries are there, with their references, and in more than sufficient number to carry conviction. The accidents have practically all occurred among very young children, and appear to be of the nature of more or less grave irritation reflexes. Several instances took place in physicians' own families, and the survival of these infants seems most likely to be solely due to the fathers' presence and prompt action at the moment of the dramatic scene. In any case, different children's specialists have definitely abandoned the use of the drug, and Dr. Leroux's conclusions are that it should *never* be employed with infants under three years of age; with the utmost circumspection up to seven years of age; and never in strength of more than 1% in persons of any age.

This downfall of such a popular, household remedy as menthol will make me more circumspect than ever in my therapeutics; how after this can we be sure lest danger be lurking even in things apparently the safest? I shall have to abandon my edulcorated and alkaline infusions of herbs, and try to compound something more mysterious or more inoffensive still! I think that young physicians cannot be too earnestly cautioned against the use of remedies in full doses, until they have tested the susceptibility of the unknown patients, and against the premature prescribing of new and aggressively advertised drugs. For, although it is well to be wide awake and fully up with what is taking place in the world, it is even better not to jeopardize life by treating a patient, who has full confidence in your prudence and knowledge, either with dangerous remedies, or with preparations that have not yet stood the test of time. I, at least, for my part, should be very sorry to have on my conscience a death from salvarsan administered for a simple indurated chancre!<sup>1</sup>

"S."

#### A SOLE WHICH DOES NOT SLIP.

BOSTON, May 4, 1912.

Mr. Editor: I have asked the writer of the enclosed to let me have a short description of something which has helped her. I thought you might like to insert it.

Yours very truly,

E. H. BRADFORD, M.D.

<sup>1</sup>As for instance, the one recently published by Queyrat: Vigorous young man of twenty-four, without organic defects; two syphilitic chancres dating back ten days; five hours after an intravenous injection of 0.60 of salvarsan in 250 of serum was suddenly seized with great distress and succumbed inside of five minutes.

"The writer has been requested, in the hope that it might be of service to others, to describe a new, serviceable device, planned originally by herself. The idea suggested itself that a thick, woolly material would cling to a slippery surface, such as an icy sidewalk, far better than rubber or leather and that the lame or timid pedestrian would gain in courage and strength with the new feeling of safety imparted by such woolly material. Experimenting upon herself she obtained a small piece of carpeting, Brussels or Wilton, or any thick ply, arranging with the shoemaker to have it cut the shape of the sole, bound with leather and stretched on to the edge of the shoe. It was a perfect success. The writer, who was also lame and timid and much of a prisoner in the winter months, was able to walk out over slippery surfaces with a new firmness and courage; not only did the woolly texture give security, but added a comfortable dry warmth to the foot, as against the damp sensation of rubber shoes. Even when wet, the sole dried quickly. A piece of carpeting for ten or fifteen cents, and the shoemaker's work for a dollar and a quarter, brings the luxury within reach of the humblest purse."

S. W.

## RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, APRIL 27, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	13	1
Chicago.....	695	188	Waltham.....	5	1
Philadelphia.....	—	—	Brookline.....	4	—
St. Louis.....	—	—	Chicopee.....	8	4
Baltimore.....	—	—	Gloucester.....	4	1
Cleveland.....	—	—	Medford.....	6	3
Buffalo.....	—	—	North Adams.....	9	4
Pittsburg.....	—	—	Northampton.....	5	2
Cincinnati.....	—	—	Beverly.....	8	—
Milwaukee.....	—	—	Revere.....	3	1
Washington.....	—	—	Leominster.....	4	1
Providence.....	—	—	Attleboro.....	2	1
Boston.....	232	52	Westfield.....	7	2
Worcester.....	47	8	Peabody.....	3	2
Fall River.....	38	10	Melrose.....	3	—
Lowell.....	45	14	Woburn.....	6	0
Cambridge.....	26	5	Newburyport.....	7	—
New Bedford.....	34	10	Gardner.....	9	3
Lynn.....	17	5	Marlboro.....	9	2
Springfield.....	16	1	Clinton.....	3	—
Lawrence.....	26	6	Milford.....	—	—
Somerville.....	19	2	Adams.....	2	0
Holyoke.....	17	10	Frammingham.....	4	1
Brockton.....	13	1	Weymouth.....	—	—
Malden.....	6	1	Watertown.....	2	0
Haverhill.....	11	5	Southbridge.....	3	1
Salem.....	14	4	Plymouth.....	2	1
Newton.....	11	1	Webster.....	4	2
Fitchburg.....	8	4	Methuen.....	4	2
Taunton.....	17	4	Wakefield.....	4	1
Everett.....	4	1	Arlington.....	1	—
Quincy.....	7	—	Greenfield.....	1	—
Chelsea.....	10	6	Winthrop.....	2	—

## APPOINTMENTS.

DR. ROBERT CHAMBERS, JR., of the United States Marine Biological Laboratory at Woods Hole, Mass., has been appointed assistant professor of histology and embryology in the University of Cincinnati.

DR. AMOS W. PETERS, of the Carnegie Food Laboratory in Boston, has been appointed biochemist in the research department of the Training School for Feeble-Minded Children at Vineland, N. J.

## ARMY MEDICAL CORPS EXAMINATIONS.

THE Surgeon-General of the Army announces that preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held on July 15, 1912, and Sept. 3, 1912, at points hereafter designated.

Full information concerning these examinations can be pro-

cured upon application to the "Surgeon-General, United States Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant-General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present sixty-eight vacancies in the Medical Corps of the Army.

## SOCIETY NOTICES.

NEW ENGLAND ASSOCIATION FOR THE EDUCATION OF NURSES.—The spring meeting of the New England Association for the Education of Nurses will be held at the Twentieth Century Club, 3 Joy Street, Boston, on Friday evening, May 17, at 8 o'clock. Papers will be read on the general subject of the trained nurse and the social worker and will be followed by discussion. All interested are cordially invited to attend.

ESSEX SOUTH DISTRICT MEDICAL SOCIETY.—The annual meeting will be held at the Relay House, Nahant, Thursday, May 9, 1912, in conjunction with the Lynn Medical Fraternity. Papers will be read as follows: "The Cause and Treatment of Chronic Common Backache," by Dr. Joel E. Goldthwait, of Boston; "The Differential Diagnosis of Smallpox," by Dr. Thomas B. Shea, Chief Medical Inspector Boston Board of Health. A lobster-chicken dinner will be served at 6.45 prompt. The Censors will meet at the Salem Hospital, Thursday, May 9, at 2 o'clock.

WALTER G. PHIPPEN, M.D., BENJ. R. SYMONDS, M.D.,  
Secretary. President.

NORFOLK DISTRICT MEDICAL SOCIETY.—The sixty-second annual meeting of the Norfolk District Medical Society will be held at Hotel Somerset, Boston, on May 14. There will be a business meeting at 5.30 P.M., and dinner at 6.30 P.M. The invited guests and speakers will be Dr. George B. Shattuck, of Boston, President of The Massachusetts Medical Society; Rt. Rev. P. J. Supple, of Roxbury; Hon. John B. Ratigan, of Worcester, Mass., Judge of the Superior Court; Mayor John F. Fitzgerald, of Boston, and the Presidents of the Norfolk South, Suffolk, and Middlesex South District Medical Societies. The secretary particularly requests that all who expect to attend the dinner will communicate with him and obtain tickets, which may be had for one dollar each.

BRADFORD KENT, M.D., Secretary,  
798 Blue Hill Ave., Dorchester.

THE NEW ENGLAND HOSPITAL MEDICAL SOCIETY.—There will be a meeting of the New England Hospital Medical Society, Thursday, May 16, at 7.30, in the Kensington Building, room 203. Dr. Stella M. Taylor, Superintendent New England Hospital for Women and Children, Roxbury, will give a paper entitled, "A Short Summary of Present Ideas in Hospital Construction." Light refreshments after the meeting.

MARGARET L. NOYES, M.D., Secretary,  
32 St. James Ave.

## RECENT DEATHS.

DR. DANIEL ALOYSIUS O'HEARN, who died of pneumonia last week at Lowell, Mass., was born in that city in 1879. He was educated at Boston College, and received the degree of M.D. from the Harvard Medical School in 1902. He was a Fellow of The Massachusetts Medical Society.

DR. ROBERT FROMMEL, who died recently at Munich, in Bavaria, Germany, was born in 1850. He was formerly professor of gynecology in the University of Erlangen, but resigned his chair and retired in 1901. He was a founder of the German Gynecological Society, and editor of the *Jahresbericht für Gynäkologie und Geburtshilfe*.

DR. HERBERT COOPER ROGERS, a well-known surgeon of Brooklyn, N. Y., died on April 29, in the fifty-sixth year of his age. He was graduated from Bellevue Hospital Medical College, New York, in 1878, and at the time of his death was associate surgeon to Bushwick Hospital and assistant surgeon to the Long Island College Hospital.





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**"Equivalent amounts of Digalen produce as distinct and marked slowing of the heart as the tincture."**

**"Digalen shows none of that hemolytic action in destroying red blood corpuscles which is possessed by those sapo-glucosides which act on the blood, as, for example, the digitonin present in ordinary tincture of digitalis."**

*Extracts from "The Effects of Soluble Digitoxin upon the Heart" (British Medical Journal, Jan. 13, 1912), by one of the best authorities on Bio-chemistry in England. Send for a reprint.*

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(Supracapsulin  
with Cocaine)

See Government  
Report (Hyg.  
Lab. Bulletin  
No. 61), which  
emphasizes the  
superiority of  
Supracapsulin  
(Cudahy) overall  
other epinephrin  
preparations.

Pharmaceutical Department

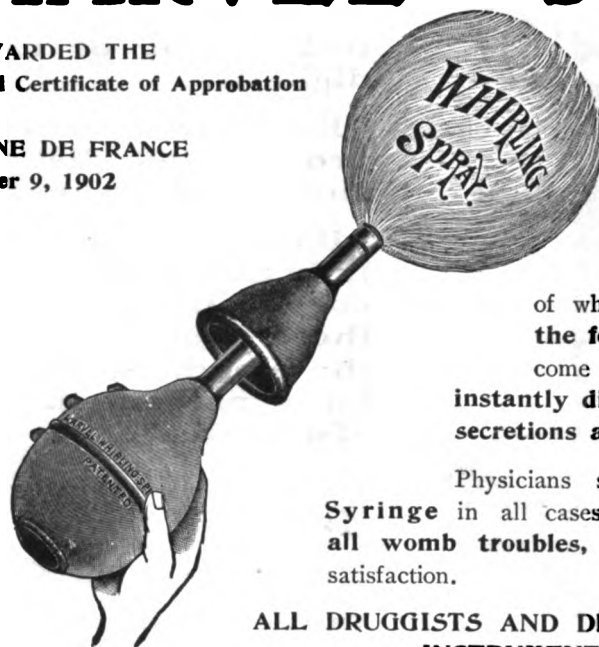
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As the latest and best syringe  
invented to **thoroughly  
cleanse the vagina.**

The Marvel, by reason of  
its peculiar construction,  
**DILATES and FLUSHES** the  
vaginal passage with a volume  
of whirling fluid which **smooths out**  
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come in contact with its entire surface,  
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secretions and discharges.

Physicians should recommend the **Marvel  
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and the whole train of subjective symptoms that often keep  
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is not only effected with surprising thoroughness, but the  
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both in glandular and motor functions is so frequently the  
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No. 72, 2 minute	-	-	-	each \$0.75
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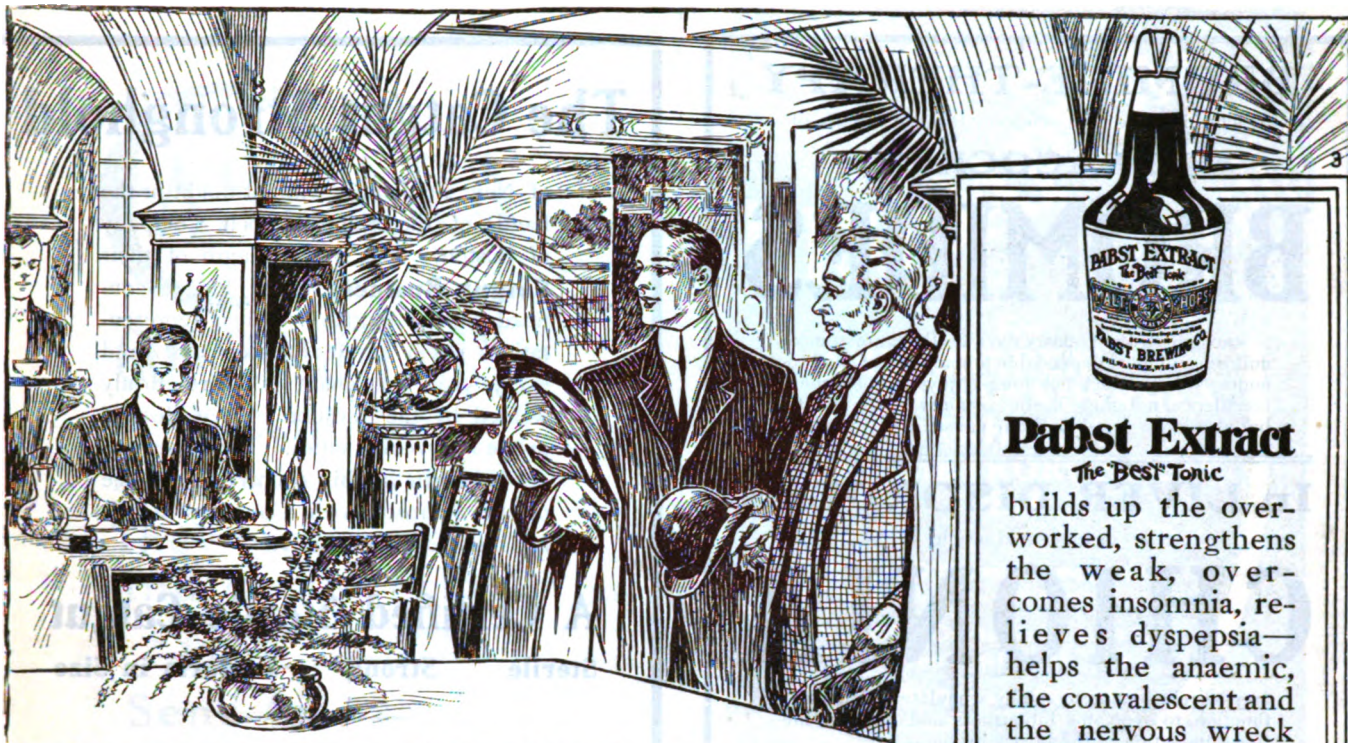
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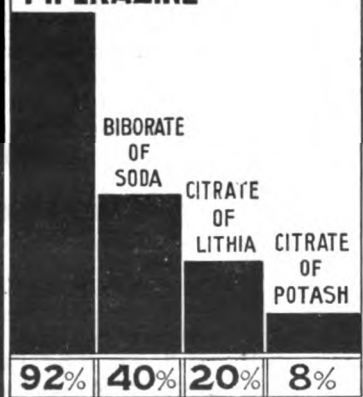
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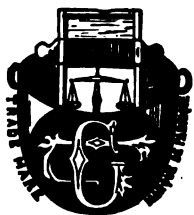
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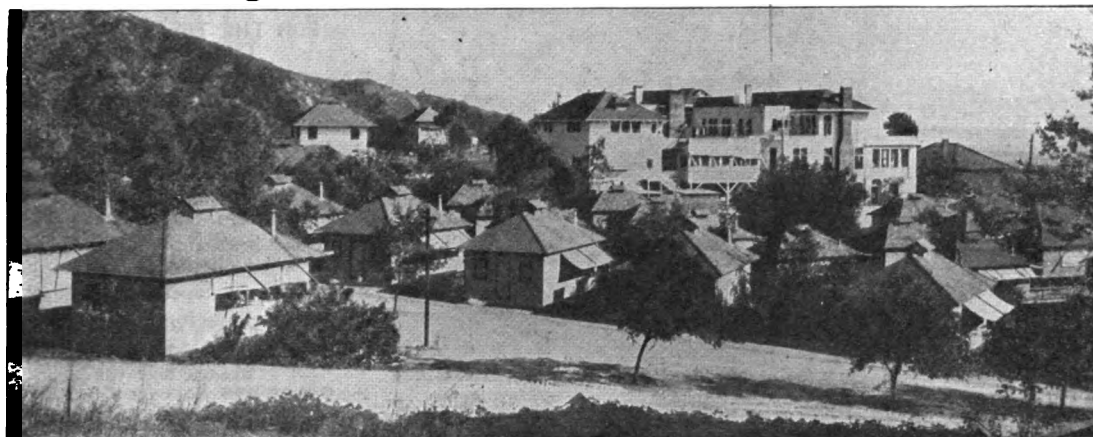
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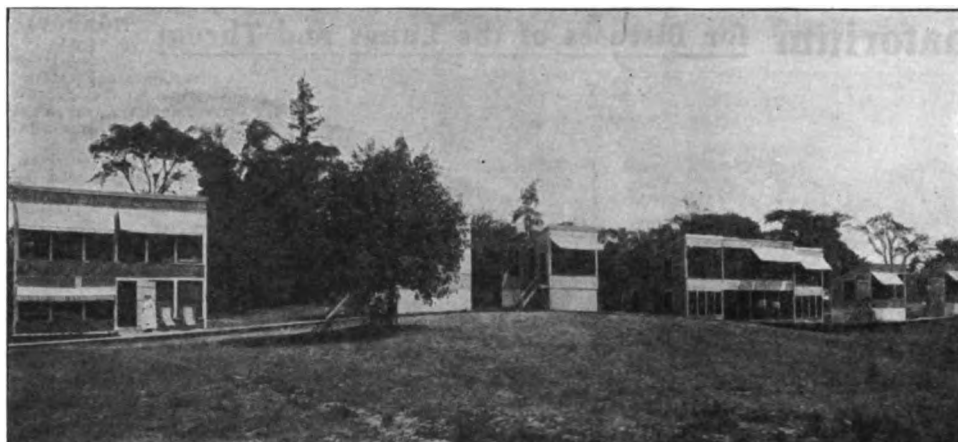
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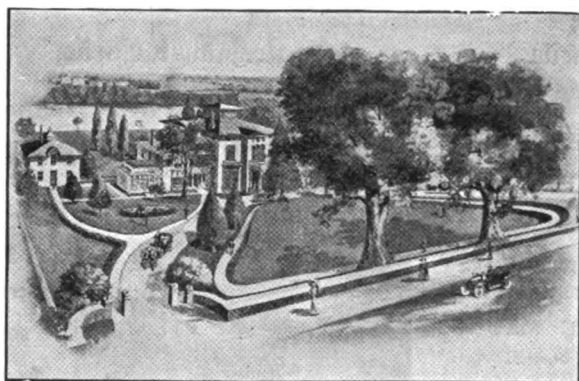
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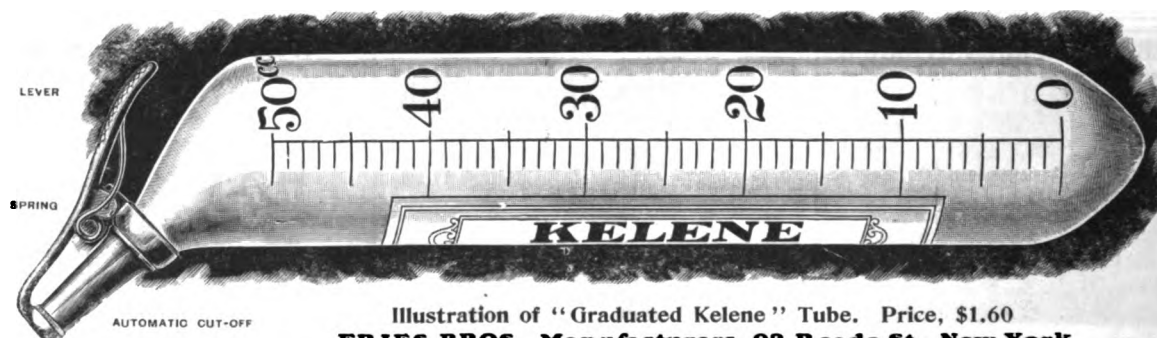


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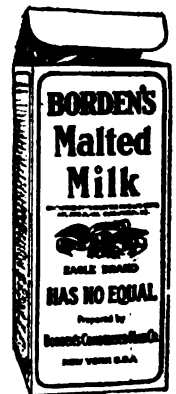
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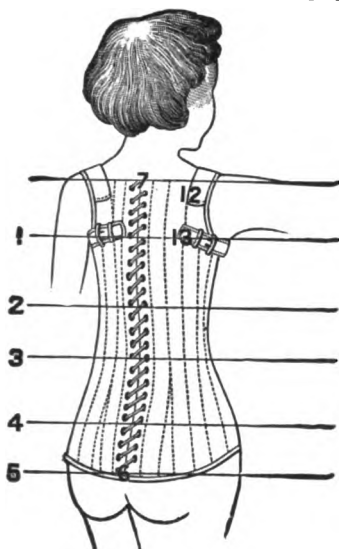
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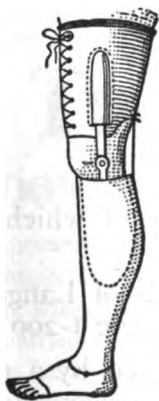
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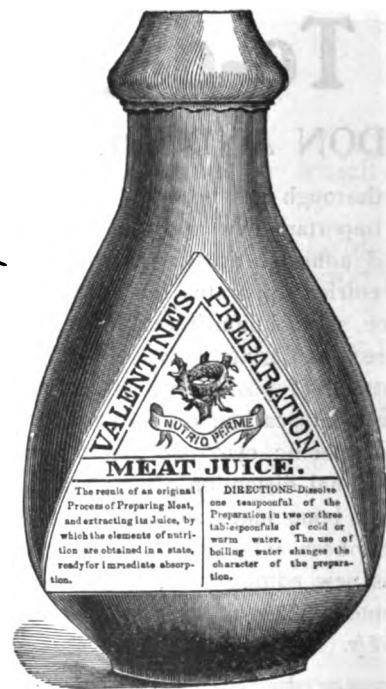
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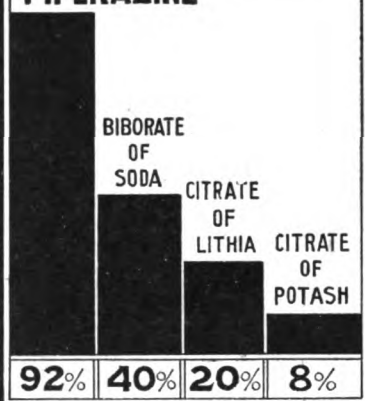
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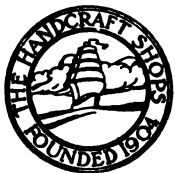
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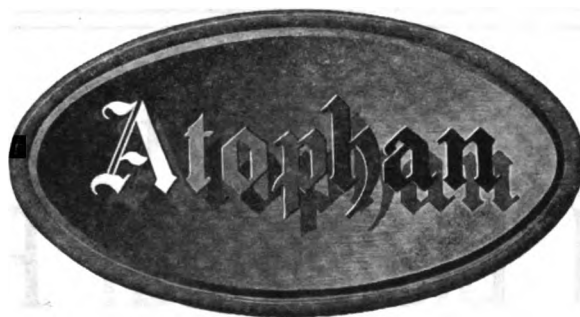
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## Address.

## GUI PATIN. HIS LIFE AND CHARACTER AS CONTAINED IN HIS LETTERS.\*

BY ALBERT N. BLODGETT, M.D., BOSTON.

ALTHOUGH the name of Gui Patin does not shine in the first rank among those of the great men of the time of Louis XIV, at least during the most brilliant period of that epoch, yet his name does not lack celebrity, especially in the first half of the seventeenth century. Gui Patin was born at nearly the same time as Cornielle, Molière, Descartes, Gassendi, Ducange, Curien de la Chambre, Gabrielle Naudé, Père Mersene, Sau-maise, Saint Evremond, etc., and he participated in that great moral and spiritual movement, the apogee of which occurred between the years 1660 and 1696.

Throughout that period this illustrious physician enjoyed a reputation founded upon his personal career and upon his erudition, a distinction then highly prized. Raised to the highest dignities of his profession, he long enjoyed the repute of a learned physician, of a distinguished practitioner and of an eloquent and high-minded professor. He was elected Dean of the Faculty of Medicine of the College of France; in which office he defended the rights and privileges of his position with equal dignity and vigor, and increased the respect of the public for the profession to which he belonged, and for the College of Medicine.

Like many celebrated men, he was the artisan of his fortune; he considered his high position only as another incentive to labor; and with assiduous application he at length found himself on the same plane with his most illustrious contemporaries.

Despite so many honorable advantages, Gui Patin was known to his immediate friends and neighbors only from his individual career: from his occasional theses, or from certain satirical polemics or tracts against antimony; and from several pamphlets which were of so ordinary merit that they did not bear his name. It is doubtful if ever his reputation had extended beyond a certain narrow limit of appreciation, and it is more than doubtful if it had come down to our time; but when, some years after his death, a portion of his "Letters" was published, there was a great change: his reputation was at once raised to a high degree of esteem; it was seen that there was much to be learned about this man other than as an illustrious physician; his wit, his penetration and his great moral force were immediately recognized; his judgment, his opinions, his disputes, his lively criticisms and his stinging sarcasms have become almost historic. Bayle, in his "Dictionary," has not omitted the name of Patin, although he gives fewer details upon the author of these celebrated "Letters" than upon the life and works of his son, Prof. Charles Patin, the distinguished antiquary and noted numismatic authority.

\* Read at a meeting of the Boston Society of Medical Improvement, March 25, 1912.

Notwithstanding their repute, these letters have been neglected for nearly a century; the earlier editions are now rare, incomplete and very imperfect. They cannot be looked upon as worthy of their origin or fame. This may in part be due to the advancing development of philosophic ideas, possibly also to forgetfulness in the multiplied and rapid succession of the political events of more recent times. However this may be, those of our day who speak of Gui Patin do not properly know or appreciate him. He is more frequently cited in some of his satirical expressions, his crisp epigrams, his virulent polemics against antimony, his perpetual conflict against Mazarin, against the Jesuits or against some of the arrogant great men of those times; but the wise man, the judicious practitioner of medicine, and more especially the philosopher, the historian, the delineator of the social and the moral conditions of the people—in short, the complete man himself—is almost unknown. It is necessary to study Gui Patin in his Letters, so original, so intellectual, so much superior to anything of this kind that has been written; it is only in this way that one can really know him, his century, his contemporaries, the events of his career and of his times—and may learn the origin of that great and powerful social movement which posterity will never cease to admire, under the name of "The Century of Louis XIV."

Gui Patin has himself given us a sketch of his life. In one of his letters to his dear friend, the learned Dr. Charles Spon, he tells in a few words of his birth and the origin of his family and the chief events of his life; which was almost always a story of difficulties in a laborious career of almost militant character. He mentions only the principal things, and it is only after much research that one can collect sufficient facts to give to his account a certain degree of fullness and connection. His own words will best tell the story:

"My native place is a small village called Hodenc, situated three leagues from Beauvais, the third Barony of Clermont in Beauvais, in Picardy.

"The most ancient of my race which I have been able to discover was one Noel Patin, who lived in the same parish more than three hundred years ago; and whose family has come down to the present time. Of his descendants, some removed to the larger towns and cities, where they became notaries or merchant-drappers, chiefly in Paris; others remained in the country, and still others have borne arms. My grandfather, whose name I bear, was a man of arms, as there was constant war in those times. He had a brother, Jean, who was presidial counsellor and royal advocate at Beauvais, and was very learned, whose memory my father greatly honored. My father studied law at Bourges and Orleans, under the late MM. Fournier and Cujas, and was admitted to practice in Paris in 1588, eight days before the Barricades. . . . He intended to remain here all his life, but the death of Henry

III, and the siege of Paris which followed, prevented him from doing so. In 1590 he was imprisoned by the Leaguers; and was released only through a ransom of 400 livres, which had to be paid in cash, a sum not large in these days, but it was a great deal of money at that time, especially so in the country. My grandmother has told me that in order to obtain this amount she pledged her wedding ring and her silver belt with a goldsmith at the high rate of interest. She could never narrate these events without weeping over the misfortunes of those unhappy times. . . .

"The 'Seigneur' of that barony was then in Paris; and, realizing that he might secure valuable service from my father, who was very capable, and who had no vices, he engaged my father as his assistant in the management of his affairs in the country; and to attach him more firmly, and keep him there, he arranged for him a marriage with the richest lady in that vicinity, whom my father later espoused. Her name was Claire Manassier, a descendant of an ancient family of Amiens. My father's name was François Patin, a good man if ever there were one. If everybody were like him, there would be no need of lawyers. He came to Paris each year upon the affairs of his employer, where he enjoyed great credit and extensive influence. I have found many friends in Paris who have showed me much courtesy on his account, which makes me regret his death more keenly.

"From this marriage came seven children: two sons, of whom I am the elder, and a brother who is in Holland; with five sisters, who are married, and who had between them all the property of my mother, which, being divided among them, sufficed for their dowry. My brother and I had the property of my father, which here would not be worth a hundred ecus of income, but it was sufficient for people who lived simply, without avarice and without ambition.

"The misfortunes of my father arose from serving an employer who was both avaricious and ungrateful, and with whom he could save nothing, although he was the trusted confidant of this nobleman for nearly thirty years.

"His regret that he had left Paris, and had remained in the country, upon the fine promises of a Seigneur '*qui nimium attendebat ad rem suam*,' determined him, even while I was quite a small boy, to make a lawyer of me, saying that the country was in a too wretched condition, and that it was essential that I go to the cities; to which end he even then made me read aloud the 'Lives' of Plutarch, and taught me a good pronunciation. At nine years of age he placed me in college at Beauvais; then took me to Paris, where I was two years '*en pension*' at the college of Boncourt, there taking my course in philosophy. At a later time, the nobility — in order to recompense my father in some manner which yet should cost them nothing — secured a benefice to him for me; which I flatly refused, declaring that I would never become a priest. My father recognized that my decision was judicious, and

made no objection: but my mother was deeply offended, and felt that I was guilty of an outrageous act, saying that I rejected the recompense for the long service that my father had rendered to the nobility.

"During five years I did not see her, nor did I go home: but God helped me, for in that time I made the acquaintance of a man [believed to have been Professor Riolan] who advised me to study medicine in Paris. To that end, I applied myself diligently from 1612 to 1624, when I was admitted to practice here; and then both father and mother were reconciled, and assisted me as much as they could toward obtaining my degrees, and helped me to purchase books. Five years later, '*duze uxorem*,' from whom I shall have the direct succession of 20,000 ecus on the death of her father and mother, who are still living, although very old: besides this, there is a collateral inheritance from an aunt without children, who is very rich. God has blessed our marriage with four sons: Robert, Charles, Pierrot and François. My age at present is forty-one years, with more employment than I merit in my profession, and less of health than I need for the requirements of my calling."

During a part of the time that Gui Patin passed in Paris, it is difficult to follow his career; it seems certain that fortune was not very kind to him, but his firmness of character and his loftiness of principles were evident. Bayle is convinced that for some time Patin was employed in correcting proof-sheets for the printers as a means of livelihood. This was the occupation of many distinguished men of letters, notably Erasmus, and his friend Buda. It is thought that the celebrated Riolan was in this way brought into near relations with the young "*correcteur*" of his proofs, and that he encouraged Patin to follow a medical career. However this may be, Gui Patin applied himself so earnestly to the study which this profession demands that he was graduated as a physician in 1627. His thesis, which he maintained and defended before the Faculty of Medicine, "*An Homo, Totus Morbus*," was to be found in the lists of notable theses of that epoch. His "*motto*" was "*Lauri plusquam Auri*."

His marriage, happy at least in respect to fortune, soon placed the young doctor in an honorable position; but that which especially contributed to the recognition of his talents was the warm interest of Riolan, who, being disappointed in his son, obtained for Patin the "*survivance*" of his chair of Regius Professor, or Lecturer, as it was then called, in the College of France, of which Gui Patin became the titular occupant in 1654.

This was the most remarkable period in the life of Patin. He was counted among the first physicians in the capital; his reputation grew, not alone in France, but in foreign countries. Thomas Bartolin, in a letter written while he was passing through Paris in December, 1645, gives his opinion in these words: "*Ingenii, officis, prom-taque lectione eminit G. Patinus, totus noster*," etc.

Gifted with a broad foundation of knowledge

and erudition, he readily conversed in the Latin tongue; he had a lively and bold intelligence, full of enthusiasm and attractiveness; and with fire and action, he was free from the restraints of a fastidious dialectic or a dull dogmatism. A marvelous clearness, great good sense and power of analysis and reasoning gave to his utterances an incontestable authority. No one better than he knew the secret of mild raillery, yet coupled with "*de sel et de sens*," which sustained and enlivened the attention of his auditors; but which in later years degenerated at times into caustic sallies of a sort of rude and bitter frankness: for Gui Patin was not a man to try to adapt the jacket of a mountebank to the toga of professor.

His principles in medicine were little other than those of Hippocrates, Galen and Fernel. He neither adopted nor entirely rejected the circulation of the blood, then newly announced, which was regarded by many as an ingenious paradox. It is probable that Patin assumed this position out of regard for his protector, Riolan, who looked upon the great discovery of Harvey as absurd, and incompatible with the laws of physiology. If Patin really believed in the importance of this discovery, his action in respect to it must have seemed a disagreeable duty; for he often employed his mind and his pen in the courageous service of what he considered the truth, and in its heroic defense when attacked.

With his strong character, so high a reputation and such a fund of wisdom, Gui Patin readily acquired the loftiest dignity in his profession. He was twice nominated as Dean of the Medical Faculty, when he writes that his name, "*resta dans la chapeau*." In November, 1650, he was elected; a medal was struck, bearing his effigy on one side and the arms of the Faculty on the other. He directed the corporation of which he was the chief, in accordance with the most ancient and inviolable statutes; in which he was recognized as "*caput facultatis, vindex disciplinae et custos legum*."

Although the functions of Dean were honorable, this office presented many difficulties, and his pathway was beset with thorns; the silent enmities, the rancors, the rivalries and hatreds more or less concealed made the position of Dean not an easy one; but Gui Patin conducted all the affairs of this body of three hundred members with so much prudence and skill, combined with justice and at times severity, that his exercise of such authority was pardoned by his confrères.

During his double deaconate the faculty attained its fullest influence, and was honored by all; its ancient regulations were enforced, its rights were maintained and its prerogatives conserved. In certain judicial causes which the Faculty was obliged to sustain, this illustrious man charged himself with its defense, and vindicated its rights with all the force and vigor of which he was capable.

He nearly always himself pleaded at the bar: and the advocates as well as the members of Parliament admired his vivid and fervid eloquence. In this way he in 1632 secured the conviction of

Theophrastus Renaudot, the founder of the first medical journal which appeared in France, called the "*Gazette de France*."

During a period of more than thirty years, from 1640 until 1672, Gui Patin enjoyed a great celebrity in Paris, as well as in all France. He was a diligent correspondent with the most illustrious savants of Europe, in which he appears as a distinguished physician, a man of letters and erudition, an historian, a close observer of politics, and an unselfish and high-minded citizen. If we add to this, the individuality of the man himself, his character, his habits of thought, his principles and his conduct in the society of his time, one can more fully recognize and appreciate this truly great personage.

Gui Patin adhered strongly to the Greek and Roman foundations of medicine; and he believed that the source of true medical science was found in antiquity; but he added to these, his keen *intelligence* and a sublime reality. In his practice he was consistent with his principles, estimating only those theories which he could demonstrate, and those general principles which are immediately applicable.

His therapeutic ideas may be described in his own words: "*Ad bene medendum, quam pauca, sed probata remedia*." He was impressed with the doctrine of the "Humoralists," and in his treatment accordingly included bleeding and purgatives; of these, *bleeding* was his primary indication, his principal resource, and the first feature of his prescriptions. He employed this remedy for infants, for the aged, the feeble, for all, in the most prodigal manner. He believed that without bleeding the patient would die from the suffocation of plethora; or as he says, "*On meurt roti*." From these views arose his vehement declamations against the use of antimony, against the chemists of his day, and against the apothecaries, whom he called "these titled poisoners."

It is worthy of remark that in speaking of different maladies, he is silent upon nervous and mental disorders, which is the more noticeable because these diseases are closely allied to philosophical research, the study of moral and social conditions, and the influences of civilization upon our economy, investigations in which he was especially interested.

A love of *books* was his predominant passion: he selected them with taste and discretion, and he showed a notable bibliographical perspicacity. He was versed in history, poesy, criticism, philosophy and the classical languages; it is true that at this epoch, physicians in general cultivated literary studies, and many taught Greek and philosophy in certain universities. One of the chief motives for his repudiation of the surgeons of his time was that they lacked a general literary education.

Amid his multifarious occupations, which allowed him little leisure, Gui Patin yet held the diverse and complicated interests of his country near to his heart. One knows what troubles agitated Paris and France during the minority of Louis XIV and the regency of his mother, Anne of

Austria. This was the period of the Fronde, when the princes, the nobility and the Parliament leagued themselves in opposition to the Prime Minister, Cardinal Mazarin. Placed in a position where he could view all the events of his time, and could see their causes, Gui Patin ranged himself in the ranks of the Frondist, and accepted the stand of the Parliament against Mazarin. He felt towards this "*Italien astucieux*," this "*étrangeur de malheur*," this "*pantalon sans foi*," this "*comédien à bonnet rouge*," this "*escroc titré*," the most energetic and vivid hatred. If his power had been equal to his resentment, His Eminence the Cardinal-Minister would perhaps have experienced harsh treatment. Although society was saturated with vice and corruption, yet the *citizens* calmly discussed the difficult problems of sovereignty, which coincidentally Richelieu, in France, decided in favor of autocratic power, and Cromwell, in England, in favor of the people.

While Mazarin was justly detested and abhorred by the people of Paris, he yet proved himself an accomplished statesman, when in 1648 he secured Alsace to France by the treaty of Munster, and in 1659 when he cemented the union of France with Spain by the celebrated negotiation for the marriage of Louis XIV with the Infante Maria Theresa.

With such a disposition of mind, one cannot be surprised that Gui Patin obtained a reputation in religious matters which was hardly orthodox. He could perhaps accept the confession later formulated by David William: "I believe in God. Amen."

Without a distinct avowal, it is easy to perceive that he was impressed, imbued and permeated with the doctrines of reform, like so many of his contemporaries; and that he was ready to believe that God has not endowed us with the power of reasoning, that we should accept views which reason reproves. Gui Patin opposed certain abuses of ecclesiastical privileges: he pointed out the ambitions, the usurpations of his time; he did not spare the monks, but painted them in colors which were little flattering. How could he believe that there was an *honest* or a *virtuous* man in a country which had clothed with its purple a man like Mazarin? He defined the Cardinal as "*animal rubrum, capax et vorax*."

There was one particular ecclesiastical body which he did not spare,—the Jesuits; bold, powerful, ambitious, though they had already a host of enemies, yet their number was constantly increasing, and they excited his animosity by their continual aggressions.

During the first half of the seventeenth century, at the time of the Fronde, the corruption of the monks and the clergy had reached to an incredible degree; in the superior ranks was Cardinal Richelieu, this priest-tyrant, crushing every one with his power; Mazarin, constantly robbing and deceiving everybody; Cardinal de Retz, intriguing with a cynical boldness which he did not attempt to conceal, preaching revolt, in a cassock slashed with sword cuts.

This was the time when Molière conceived and

produced his "*Tartuffe*." Well might *Gui Patin* in perfect frankness paint the manners of his time! The fanaticism of persecution did not spare those who indulged in liberty of thought: it was for this cause that Giordano Bruno was condemned to the stake in Venice in 1600 on account of his book, "*Spaccio delle bestia trionfante*"; that the poor lunatic Vanini, whose atheism was never proved, suffered the same fate after having his tongue torn out, in 1619! The author of these letters had attained his eighteenth year when the unfortunate Urbain Grandier was condemned to be burned alive to satisfy the base vengeance of Richelieu! Gui Patin was in his best years when the persecution and recantation of the illustrious Galileo took place: it was on the 22d of June, 1633, that this great man, on his knees, admitted before the insolent ignorance and hatred of the priesthood: "*Moi, Galilée, âgé de soixante-dix ans, agenouillé devant vous éminentissimes cardinaux — inginochio avanti di voi*," etc.; that is to say, that he confessed himself guilty of being an incomparable man, and of being Right! for they compelled him to say that the movement of the earth must be considered an absurdity, an error, and a heresy! Peyresc even at that epoch pronounced the judgment of posterity: "*It is Socrates, condemned for the second time!*"

In his writings, Gui Patin but echoed the voice of France, of Italy, of Europe.

The name and the glory of Gui Patin have survived through a work to which he attached little importance: his correspondence with a few friends,—this is, in his letters. Immediately upon the appearance of a part of these letters, they attracted public attention; they were read with the most lively interest in all Europe. From them one learns the society in which the writer lived; one seems to see and hear him, and to perceive all his surroundings, his family, his friends, his companions and his contemporaries. This is the truest point of view, because it is full of life and movement, and is palpitating with realities. We may add one important remark,—these letters were never intended for publicity; the reader must not forget that they are in the form of intimate and personal correspondence; they are the confidences of heart to heart, of a friend to a friend.

The more one reads of Gui Patin, the more one is convinced of the excellent qualities of his heart; delicate in his sentiments, moderate in temperament, he enjoyed his honors, his dignities, his wealth; but he would not defile them by baseness or servility. His is one of those few characters, complete, sharp-cut, expanding and elevating, which are becoming more rare in the progress of civilization; without vanity, as without hypocritical modesty, he held his own place, disdaining the *small mean* passions which gradually exhaust the forces of man.

Although his life was happy in most respects, nature and fate were sometimes cruel to Gui Patin. Of his four children, but two were long spared to him.

Robert Patin, the elder son, born in 1629,

followed the profession of his father, who in 1667 resigned his chair in medicine in the College of France to him. His fondest hopes were bitterly disappointed; for this son died of phthisis at his father's house in Corneilles in June, 1670. Of all his children, perhaps the favorite was the second, Charles Patin, born in 1633. He constantly extolled the spirit and intelligence, and the excellent qualities of his "cher Carolus," whom he at first intended for the law, but who later adopted medicine; but Charles was more strongly attracted by the researches of antiquity, in which as well as in numismatics he became distinguished. We may judge of the poignant grief of Gui Patin when this dear son was exiled from his country, without, so far as has ever been known, any true cause for such severity on the part of the government of Louis XIV. His exile continued all his life, for Charles Patin died as professor at Padua in 1694.



GUI PATIN, 1602-1672.

Gui Patin succumbed to his grief and to increasing infirmities on Aug. 30, 1672. He was buried in his parish of Saint-Germain l'Auxerrois. La Force, in his "Description historique de la Ville de Paris," has collected the epitaphs of the ancient churches with much care, but he does not cite any memorial of the illustrious author of these letters.

Gui Patin lived in the most distinguished part of the capital city; but no monument has been erected to him, either by the Faculty, nor by his family. Had he lived in our day, his memory would doubtless have been more suitably honored; for the recognition of men great in any of the walks of life, is one of the characteristics of our century.

The foregoing sketch of Gui Patin is derived chiefly from the "Notice sur la Vie, le Caractère et des Ouvrages de Gui Patin," found in the last complete edition of his "Lettres," published in 1846, by R. J. Reveillé-Parise, Docteur en Médecine, Chevalier de la Légion d'Honneur, Membre de l'Académie Royal de Médecine, etc. Paris, Chez J. B. Baillière, 1846. Other works on biography and notices of the renowned men of his century have also been consulted, with the aim of presenting a summary of the activities and the most salient characteristics of this distinguished man who did a great deal for the advancement of his times, for the profession to which he was an honor, and for the cause of medical education.

Among the authorities from which extracts have been taken are — La Grande Encyclopédie, t. 26; Nouveau Larousse: Dictionnaire Universelle Encyclopédique; Gerolamo Boccardo: Nuova Enciclopedia Italiana; Michaud: Biographie Universelle, t. 32; Bayle.

Editions of "Lettres de Gui Patin": Francfort (J. L. du Four): MDCLXXXIII; Paris: MDCLXXXV; Paris: MDCLXXXVIII; Rotterdam: MDCLXXXIX; Cologne: MDCXLI; Cologne: MDCXCII; Paris: MDCXCII; La Haye: MDCCVII; La Haye: MDCCXV; La Haye: MDCCXVI; Rotterdam: MDCXCV; Rotterdam: MDCCXXV; La Haye: MDCCXXVIII; Amsterdam: MDCCXVII; Paris: 1846; Paris: 1907 (edition not yet complete); Paris: 1911 (Gui Patin; avec 74 Portraits ou Documents).

## Original Articles.

### GONORRHEAL ARTHRITIS.\*

BY JAMES WARREN SEVER, M.D.,

Junior Assistant Surgeon, The Children's Hospital, Boston; Member American Orthopedic Association.

As you are all aware, the gonococcus affects the urethra, and produces local catarrhal inflammation and hyperplasia. It may also secondarily induce marked changes in the joints, tendons, bursæ and muscles. It is also a frequent cause of osteitis, periosteitis and osteomyelitis.

Gonorrhea is followed in over 10% of the cases by joint involvement, — usually monarticular in one half of all cases, — which may come on during any stage of the disease, even when it has been latent for a long period of time. Foci existing in the prostate, seminal vesicles, uterus, tubes and ovaries may light up at any time and cause joint symptoms.

The joints usually affected are the larger ones, — such as the hip, knee, ankle, wrist and elbows; but the smaller ones, — such as the tarsal, sternoclavicular joints, — do not always escape. The spine is often attacked, and many stiff backs in young men are due to this infection.

It has been stated that gonorrheal arthritis may come from ophthalmia in children, and in adults may go on even to a septic condition.

Arthritis never follows an attack of anterior urethritis, but when the infection reaches the posterior urethra, prostate and seminal vesicles, the joints may then become involved.

The infection of the joints is transmitted by the blood; and in the mild cases, the cause of the joint inflammation is usually a toxin and not a direct infection by the bacteria themselves; and this type forms about one third of the cases. But in the very acute and septic cases, the bacteria themselves are found in the joint, in the fluid, in the synovial and subsynovial layers, often accompanied by other bacteria, such as the staphylococci.

There are two types which are typical, and which can be classed as *acute* and *chronic*.

In the *acute type*, the onset is sudden, coming on not long after the exposure to the infection; there is a chill, high temperature, full pulse, con-

\* An address to the Wyman Memorial Medical Club, Cambridge, Mass., March 13, 1912.

stipation and very severe and exquisite pain over the joint or joints involved. The discharge from the urethra may cease during this acute joint attack. The course of the attack may be rapid, and the patient may convalesce quickly. There is, however, always a tendency to recurrence.

The serous effusion may cause severe and agonizing pain, and aspiration or opening the joint and washing it out with salt solution or weak corrosive may be necessary. The serous exudates usually subside under bandaging and rest. The serous effusion is generally thick and may contain clots of fibrin, but is essentially of synovial origin.

The *chronic type*, on the other hand, suggests a general infection. There is loss of weight and strength, and a condition exists of general debility. The joint symptoms may start up after passing a sound and often after urethral injections which spread the infection to the deep urethra. In these cases the joint may resemble in a general way an acute tubercular joint. The fibrous exudate and peri-articular inflammation cause limitation of motion, and lead to adhesions and ankylosis. Flat and acutely painful feet resistant to all splinting treatment, such as strapping, pads and plates, are often examples of gonorrheal infection of the tarsal joints and soft parts of the foot.

There is, however, great variety of individual susceptibility, and many cases are not typical. The term "gonorrheal rheumatism" has been objected to by many observers, who believe that the condition is a true infection and should be so classified.

Gonorrheal arthritis as contrasted with other rheumatic affections involves the knees most often. The spindle-shaped fingers of rheumatism are seldom seen.

Besides the joints, the diaphyses of the long bones may be involved, and the os calcis.

Cases of osteomyelitis of the humerus have been reported, coming on five weeks after an attack of acute gonorrhea, where the gonococci have been found at bacteriological examinations.

A case of osteoperiostitis of the diaphysis of femur has been reported by Watts<sup>1</sup> following an attack of gonorrhea.

Inflammation may extend from a gonorrheal joint along the adjoining long bones to a greater or less extent; but such thickening is generally due to inflammatory infiltration of the tissues above the periosteum.

The spurs on the plantar surface of the os calcis are probably familiar to you all. They may be produced by one of two means: The one from muscle strain and irritation and pressure; and the other by bacterial influences.

Following an urethritis, there may be pain, sharp and severe, in one or both heels, occurring generally in males (some observers say wholly) between the ages of eighteen and thirty. The pain is so severe as to incapacitate the patient and make active treatment necessary.

The pain from these spurs, if not relieved by

pressure, by pads, strapping or lack of weight bearing for a while, may be removed by operation, which usually gives prompt relief. In a certain number of these cases, the presence of the gonococcus has been determined at operation.

The treatment of these joints locally is best carried out by rest, — either by splinting in a cast, by bed treatment, — and later by massage and easy motions. In the very painful joints, operation may be indicated for relief of pain. In some cases where the wrist was involved, deep slashing was done with great relief. Beyond these local measures, there are other things which should be done, namely: (1) Building up the general condition; (2) in the acute and recent cases, the use of the serum or bacterins; and (3) in the old cases, — and by that I mean the cases which are essentially chronic, having arisen from previously latent foci, — the use of such orthopedic measures as may promise relief.

Dilating the urethra by means of a sound, and washing it out with medicated solutions, is often of great importance, for often old foci are concealed behind urethral folds or deep strictures, biding their time to make trouble, and furnishing a potent source of evil.

When the foci are in the vesicles or prostate, rectal massage of these organs is to be carried out, and Fuller, of New York, has achieved remarkable results in certain cases of infected joints by excising the vesicles. Prostatic abscesses are to be opened and drained. Following these procedures, marked changes in the joint conditions are often noted in a very short space of time. The most interesting development of recent years in the treatment of these joints is by means of the serum and bacterins; and many observers regard the employment of these products as of value, but brilliant results are not to be expected. There is great variability in the toxicity of the cultures of the organisms, and in gonorrheal joint infection there is as yet no well-established ground for believing that the use of these products can produce any marked curative effect. It is perfectly obvious that vaccines have not proved useful in most people's experience, and also in the chronic cases that organized thrombi, ankylosis, subluxations, contracted tendons and bone proliferation will not yield to sera or bacterins. It is also reasonable to suppose that a serum which may be given may contain no specific antibodies for that specific case, when of course no benefit can be expected. A review of the more recent literature of the use of vaccines may be of interest as showing the opinion of various observers on this subject. Before going further, however, I wish to define the various bacterial products, namely:

*Bacterial vaccines*, or bacterins, are suspensions in physiologic salt solution of pathogenic bacteria whose vitality has been destroyed by heat.

*Serums* are the liquid portion or serum of the blood of animals, usually horses, that have been treated with gradually increased doses of bacterial toxins or attenuated or killed cultures of the organisms themselves; and

<sup>1</sup> Jour. Am. Med. Asso., Aug. 19, 1911.



*Toxins*, which are the product of bacterial growth.

In the use of bacterins, the patient is stimulated to supply or manufacture his own antibodies; in the use of serum, the patient is supplied by antibodies present in the serum on account of his own inability to produce them. The first confers active immunity. The second confers passive immunity. When the patient cannot produce his own antibodies on account of general infection, it is necessary to supply them by means of an injection of serum. When the infection is acute and localized, the bacterins are indicated.

The present-day opinion is towards the use of the mixed vaccines, — especially in gonorrhea, — where the vaccine contains not only gonococci, but also strains of *staphylococcus aureus*, *albus* and *citreus*. By their use the deep infections of the prostate, vesicles and epididymis are best attacked, for their chronic inflammatory areas are seldom free from the common pus-producing organisms.

Rogers and Torrey,<sup>2</sup> in a paper on the use of antigonococcal serum, believe that its use affects pain and inflammation favorably in the chronic cases if given twice a week for a month and then at intervals, say, once in two or three weeks, according to the symptoms. If there has been no change for the better in chronic joints after four treatments, it is useless to continue its administration.

W. R. Jack<sup>3</sup> reports four cases of gonorrheal rheumatism in which he used the autogenous vaccines. He believes that this type of vaccine acts more quickly in bringing about disappearance of pain, fever, swelling, and also that fewer injections are necessary. The vaccine was prepared in one case from fluid withdrawn from a knee-joint, and put on a plate culture, from which one colony developed. All four cases recovered quickly; they were under treatment about six weeks.

L. E. Schmidt<sup>4</sup> states that vaccines and sera probably do not confer immunity. Work in gonococcal vaccines and sera has shown that the site of the injection is of little importance. Strict asepsis is of course necessary. Satisfactory results have followed the use of both types in certain cases.

Uhle and MacKinney<sup>5</sup> have used antigonococcal serum prepared from sheep, which has been injected hypodermically in 2 ccm. doses. The injections were given at intervals of from one to three days. They report the results of 23 cases. They noted that there was no curative effect on the urethral infection. None of the cases suffering from gonorrheal prostatitis were cured. Of 7 cases of epididymitis, 3 were improved, 4 showed no improvement. They conclude that neither the number of injections nor the time elapsing between the injections has any influence on the results of treatment, and in no case was

there prompt improvement. The best results were obtained in the cases of arthritis. Three were promptly relieved, and in all evidences of local inflammation disappeared in less than two weeks.

Titus<sup>6</sup> has used a vacuum electrode which he introduced into the rectum for the purpose of treating the prostate and vesicles. He states that the actinic action of the high-frequency rays destroys bacteria by direct effect, and also that the rays have the power of penetrating a certain distance into the tissues.

Irons<sup>7</sup> presents conclusions from 40 cases, 30 of which were arthritis ones. He believes that recovery in some cases is apparently hastened.

Preiser<sup>8</sup> speaks of differential diagnosis, and states that the use of Bier's passive congestion method is without success. He believes that early passive motions prevent adhesions.

C. Jarvis<sup>9</sup> states that the use of vaccines in moderate doses, or in large dosage when suitable, is harmless. Stock vaccines give apparently as good results as autogenous vaccines. Small doses, — 1 to 10 million, — repeated at intervals of five to seven days, are more reliable than larger ones, such as 50 to 100 millions given at longer intervals.

Vaccine therapy is more efficacious in respect to the complications than in cases of urethral lesions, but its employment does not justify one in discarding the classical methods of treatment.

Swinburne, of New York, in a recent paper, advocated the use of bacterins, and reported some remarkable results, which, however, have not been duplicated in Boston. He reported certain cases which cleared up completely after one or two injections of the mixed bacterins in a few days. He is also markedly in favor of active urethral, prostatic, and vesicular treatment in chronic cases. His results with bacterins were all, as I remember it, in acute cases.

At the American Association of Genito-Urinary Surgeons' meeting held at New York in June, 1911, Dr. Orville Horwitz, of Philadelphia, reported the results obtained in 211 cases of gonorrhea and its complications by means of gonococcal vaccines and anti-gonococcus serum. His conclusions were: (1) That beyond occasionally relieving patients who were suffering acute pain, vaccination was useless; (2) that the serum was of service only occasionally in severe cases of epididymo-orchitis and myocarditis; and (3) that in acute and sub-acute arthritis, it should always be used as a routine treatment.

Dr. Robert H. Green, at the same meeting, reported the results of certain observations of gonorrheal arthritis. So far as the vaccines were concerned, he was under the impression that while some of the cases were apparently benefited by them, in others they did not seem to be of any value. The serum in certain cases seemed to

<sup>2</sup> New York Med. Rec., July 25, 1908.

<sup>3</sup> The treatment of gonorrheal arthritis by injection of dead gonococci and the clinical reaction which follows the injection. Arch. Int. Med., May, 1908.

<sup>4</sup> Gonorrheal arthritis. Hamburger Alisze, Korrespondenz, 1908, no. 20.

<sup>5</sup> The vaccine treatment of gonococcal infections by Wright's opsonic method. Presse Méd., 1910, no. 19.

<sup>6</sup> Jour. Am. Med. Asso., xlix, no. 11, 1907.

<sup>7</sup> Glasgow Med. Jour., April, 1910.

<sup>8</sup> Therap. Gaz., Sept. 15, 1910.

<sup>9</sup> Jour. Am. Med. Asso., li, no. 2.

have a marked value in relieving pain, even when other measures failed.

Zieler<sup>10</sup> states that any factor which tends to aggravate an acute gonorrhea favors the spread of the germs into the blood. He believes in the Bier passive congestion bandage, which should be kept applied for twenty or twenty-two hours a day.

He believes that a general gonococcic infection is best met by the administration of the vaccines. He cautions wisely against any procedure which may cause a spread or lighting up of any urethral process so that an extension from the urethra follows.

This short résumé of some of the more recent literature seems to indicate that the results vary considerably. Apparently in the early and acute and subacute cases, results may be good, relief from pain quick, and early function obtained in some cases. In others, relief from pain alone seems to be the one result obtained. This in itself, however, is of value. It would seem that in the early cases before a general infection had taken place, the mixed bacterins would be of the greatest value as compared to the anti-gonococcic serum. Apparently, however, the sera have given the best percentage of results, indicating probably that the infection had become a general one and a lack of individual resistance had become established. The matter, however, has not been studied long enough apparently for observers to have come to any definite conclusions as yet in regard to the value of these procedures, and there will probably always exist more or less uncertainty as to the value of the method so long as individual susceptibility and resistance varies. It is almost needless to state that one or both methods, — that is, the administration of the mixed bacterins or serum, — should be used as a routine in all early cases in the hope of producing an effect.

In the old chronic cases, where the joints have lost their integrity and become partially ankylosed, orthopedic measures are indicated. The opening of the joint, and the insertion of muscle strips after the fashion of Murphy, or fascia, or distention of the joint by oil and iodoform as advocated by Brackett, seem to offer methods of restoring some function. Stiff and tender spines are to be protected by plaster jackets until the acute irritation has subsided.

The following case is of interest as illustrating certain points:

J. B., age thirty-one, single. Contracted gonorrhea six years ago, followed soon after by an acute inflammation of the right knee joint. This condition lasted ten weeks, and cleared up under ordinary methods, without the use of vaccines or sera.

Seven months ago, for no apparent cause, the right foot, left knee and back began to pain him, since when the back has become increasingly tender, painful and stiff, and the right foot has become swollen over the dorsum, stiff and painful. The condition of the knee joint has cleared up, but there has remained a tender area over the tibial tubercle on the left. He has con-

siderable difficulty in walking and getting about, and also experiences great pain in his back when in bed and when attempting to bend it in any direction.

I saw him first on Jan. 9, 1912, after he had had plates tried for his feet, without relief. He had also had about six doses of anti-gonococcic serum given him, without any noticeable benefit. His general condition was very poor, and he was steadily losing ground.

An x-ray was taken of the right foot, which showed bony spurs between the astragalus and os calcis, and between the astragalus and the internal cuneiform, besides bone atrophy and general cloudiness of the tarsal joints. A plaster cast was applied to the foot from the toes to the knee, and the back was strapped. Crutches were supplied, and daily baking with the radiant electric light, and massage was instituted. He at once began to be better, but it was thought advisable to have him under closer control, so he was admitted to the Cambridge Hospital, where he was under the care of Dr. G. P. Cogswell. Here he had his baking and massage continued. He wore the cast on the leg, and also had a plaster jacket applied to protect his back. At the end of a month, he was discharged, much improved. Since then, his improvement has been rapid, due largely, I believe, to massage of his prostate and vesicles, and dilatation of his urethra by means of a sound, by Dr. C. M. Hutchinson, of Cambridge, who asked me to see the case originally. Since this local treatment has been instituted, more shreds have appeared in his urine, showing that he was apparently getting rid of some focus of disease. He has gained weight, over seven pounds in the last two weeks. His back is no longer painful, but is still somewhat stiff; the foot is practically well, — not swollen or tender; but in order to overcome a slight valgus present and prevent strain, he wears a plate. Movements of the foot are free and painless in all directions.

This case, I think, teaches three important things, namely:

1. Liability of old foci to cause symptoms.
2. Necessity of joint protection and treatment; and
3. Rapid and marked improvement following prostatic and vesicular massage.

## THE COLD-WATER CURE FOR NERVOUS DYSPEPSIA.

BY A. B. AUSTIN, M.D., BOSTON,

Physician to Mount Sinai Hospital and Berkeley Infirmary.

THIS title is chosen first in conformance with general medical terminology, but in its latter part it is a misnomer because there is no such thing as nervous dyspepsia apart from a neurasthenia in which the stomach plays the most prominent part in the estimation of the patient, and, secondly, in conformance with the use of the word "cure" for "treatment," though in the proper sense it is not a cure since it fails in many cases to accomplish what it is designed to do. The use of the word in this sense may have a double justification, first in its psychotherapeutic influence on the patient and secondly in strengthening the faith of the physician who, after seeing many failures in treating these cases, the most trying in his practice, certainly needs to have his confidence renewed. The only absolutely effect-

<sup>10</sup> Med. Sc. Klin., Berlin, viii, no. 6, Feb. 11, 1912.

ual water cure with which I am acquainted was that employed upon the Filipinos, according to report, to compel them to reveal the hiding place of their arms, and it is understood that it never failed. Now in order to apply this treatment effectively, we must of course select with great care the cases in which we shall apply it; it will never do to include any of the true organic diseases of the stomach, as the late effects of a chronic ulcer or the early effects of malignant disease in this group, though the symptoms may not be distinguishable at first from a non-organic form of digestive disorder, else our treatment will soon fall into disrepute. Our means of differentiation, however, are daily growing more accurate so that error is less liable to creep in. Then, again, the reflex causes of indigestion, a cirrhotic liver, an uncompensated heart failure, the presence of gallstones or merely a cholecystitis, a nephritis, a displaced uterus, a tabes dorsalis or a chronic appendix, all of which will produce all the symptoms of gastric disturbance, when by physical means no abnormality of that organ be discovered. Having ruled out all these conditions, we may then begin to speak with truth of the gastric manifestations of neurasthenia, the so-called nervous dyspepsia. Here we reach a variety both of symptoms and physical conditions as divergent and bizarre as can be well imagined; there are variations in motility from a stomach emptying after a test breakfast in forty minutes to one in which microscopic fragments may be found twelve hours after the evening meal; variations in acidity from complete absence of hydrochloric acid and an acidity of 3 or 4 to one of 80 to 100 and, in sensation, from one who has an utter disgust for food and vomits promptly when food is urged to one whose hunger is so great that he almost faints if it is not appeased and trembles like one with an ague until food is taken. The subjective symptoms, too, are fully as erratic as the physical, and patients will complain of the same discomfort and even pain two to three hours after eating whether there is an excess of mineral acid or none whatever; one significant feature may be relied upon for some aid in this confusion and that is that the leading complaint of one week is not that of the next; eructation after eating changes to palpitation of the heart, epigastric pressure and distress to insomnia, and nausea to lump in the throat and conscious difficulty in swallowing which is never prohibitive and is often present in a blooming, well-nourished individual. In fact, apart from those with the constant dread of eating, with them for fear of its consequent discomfort, which reduces nutrition to its lowest ebb, the nervous dyspeptics are often an unusually comfortable looking group of patients and unconsciously give the lie to their statement that they are unable to eat anything. The inconstancy of the special complaint also wears its label; if you ask whether pressure after eating is present, you learn that sometimes it is and sometimes not, so of eructation, heart burn, etc. If you ask when after eating these symptoms occur, you learn that they may come sometimes

in thirty minutes and sometimes in three hours, while many will tell you that they are present all the time. In fact, they suffer from a species of discomfort which one race localizes in its heart, another in its stomach and another in its belly. To show the similarity of the symptoms in certain forms of nervous dyspepsia and forms of true organic disease, especially with reference to the common one of difficulty of swallowing and regurgitation, I wish to quote the two following cases:

1. M. D., a woman, twenty-eight years of age, for the last two years has had a feeling that food "sticks" in her esophagus and for some time after eating she is conscious of pressure under her breast bone; she then unconsciously brings up several mouthfuls of food which does not taste unlike that which she ate, and does not possess a bitter or sour taste. It makes no difference whether the food is solid or liquid; in fact, a glass of cold water will often produce the same effect. This discomfort ceases after a half hour or more and she is free from the difficulty until the next meal. Her bowels were regular and all other functions, as far as could be learned, were normally performed.

The woman was found to be well nourished, with clean tongue and normal reflexes. The heart and lungs were without anything noticeable and the stomach was one finger's breadth above the navel and, apart from marked succussion two hours after meals, elicited above the umbilicus, there was nothing to be found; the succussion was not regarded as abnormal. In the morning after an evening meal of the usual character the tube passed readily into the stomach and a few cubic centimeters of fluid without food fragments were withdrawn which gave a reaction for free hydrochloric acid, but subsequent washing failed to remove any food fragments. The abdominal walls were firm though not tense and no tenderness was elicited except over the ovaries. One hour after the test breakfast 94 ccm. were withdrawn with an HCl content (free) of 22 and a total acidity of 44. It digested 6 mm. of a Mettete tube in the usual time, and the solid portion of the contents determined with the centrifuge amounted to 25%. A subsequent examination showed 120 ccm., 19% solid with acidities of 2 and 36. The stool contained considerable connective tissue and some mucus.

This patient was regarded as suffering from one of the various forms of nervous dyspepsia, and after nervines, diet, faradism, massage, change of surroundings and repeated passage of the stomach tube were found absolutely unavailing, recourse was had to vigorous hydropathic measure, as described later, with great relief, though the patient was always reluctant to enter a social gathering directly after eating, for when at all excited she was liable to have a recurrence of the regurgitation. Whether any of the regurgitated material actually remained in the esophagus I was never able to determine, but repeated specimens of it always failed to show an acid reaction (HCl).

2. J. R., a man fifty-one years of age, with no family history, was well up to two years ago, when he began to have discomfort after eating which at times, according to his tale, amounted to actual pain, which he compared to a toothache, but which can be taken with a grain of salt on account of his belonging to a neurasthenic race. Six months ago there was added to his discomfort and pain a sensation as if the food remained in the esophagus, which was accompanied with pain which he localized under the breast bone; this might last three or four hours, but usually disappeared before the next meal and could often be made to disappear by

copious draughts of hot water. It usually began with the first mouthful swallowed and was more likely to be produced by solid food than liquid, though it was produced by both. He has suffered from nausea, but does not bring up food, though at times a badly smelling fluid comes up in his mouth, often amounting to a cupful, which he spits out. His appetite has not been impaired and he has still a liking for meat, though he recognizes that meat causes him more trouble than any other food and, on account of the association of his pain with food, he has restricted his eating to the barest necessary amount of food.

He said that he could not lie on his right side. His weight has diminished from 175 to 136 lb.

Upon examination there was found a sick looking man with sunken cheeks and a peculiarly anxious look; pallor was marked but there was no sallowness. Heart and lungs normal but there was some rigidity of the arteries with tortuous temporals. The stomach extends to within three fingers of the navel, its lower border can be distinctly felt on account of the rigidity of the organ, though no peristaltic waves can be seen. No localized enlargements could be felt, nor was there succussion. The use of CO<sub>2</sub> produced some pain, but did not change the position or size of the organ. Liver boundaries were not increased nor could the edge of the organ be felt. Upon attempting to pass the soft stomach tube resistance was met 34 cm. from the incisor teeth, which could not be at first overcome, but upon washing out with a small quantity of water, which removed several fragments of food unchanged, and showing no reaction for hydrochloric acid, but containing a large amount of mucus, a reintroduction of the tube, after again meeting with obstruction at the same point and some delay, was successful and food was removed which gave a reaction for free acid. The second deglutition sound was wanting and, fasting, the stomach contained no food fragments, but the washings showed a reaction for free hydrochloric acid. An x-ray examination after bismuth paste showed a narrowing at the point of resistance to the tube, the bismuth remaining thirty minutes after it was swallowed. This patient had been treated at the out-patient department of one of our well-known hospitals for six months without relief apparently for a nervous dyspepsia. Later this patient returned to the same hospital, was placed in bed and under forced feeding and the frequent passage of hard stools, gained a large part of the flesh lost and was discharged very much relieved; but at the present time, five months later, his pain after eating has returned, much aggravated by motion and lifting, which is necessary in his occupation.

Here are two cases which first impressed me and impressed others as forms of nervous dyspepsia, in the first of which cold water treatment had been of avail, but in the latter was entirely ineffectual; the undoubted reason for this difference in these results is that the latter had an organic stricture of the esophagus, whether malignant or not is still undecided. The loss of flesh in the latter might be well due to his semistarvation on account of the pain produced; both complained of pain after food was taken, but the look of suffering of the latter as contrasted with the look of well being of the former led one to give full credence to his statement.

Let us turn our attention for a moment to the common symptom of eructation, which may be equally due to a nervous dyspepsia or an organic disease either of the stomach or of some neighbor-

ing organ and act upon the stomach by reflex agency. The former variety may be either due to air eating or to a relaxation of the stomach walls, also of nervous origin, the former of which is uninfluenced by the cold water treatment, the latter much relieved, if not cured. Let me illustrate by contrasted cases:

3. W. L., a woman fifty-two years of age, usual weight 165 lb.; has weighed 185. She passed the climacteric three years ago. Apart from shortness of breath, which she thought was due to her obesity, she was well up to ten years ago, when she had a sudden attack of pain in pit of stomach extending through to her back, so severe that opiates were employed; after the free eructation of gas she was relieved and did not vomit; she was not jaundiced and after a week of light diet she was free from difficulty for one year, when another attack of the same character occurred, but more severe and lasted longer. Then she had three attacks a year until five years ago, since which there have been no acute attacks of pain, but she has had a feeling of distention and pressure after eating, relieved only by free eructation of gas, and sometimes this feeling may come on at night and is relieved as usual by raising gas; very rarely there is a mouthful of fluid which tastes sour; generally the stomach feels better when empty and the bowels are usually confined. The appetite is erratic and she regards herself as nervous in that she is overanxious over trifles. Examination showed a woman of very short stature, weighing 150 lb.; she had an enlarged thyroid on the right side, but no exophthalmos, tremor nor tachycardia. Upon turning back the eyelids the conjunctivæ were found to be lightly yellowed, though the skin showed not the slightest tint of yellow. The temporal arteries were somewhat tortuous and the joints of the terminal phalanges were thickened, somewhat tender and stiff. The heart sounds were muffled but normal in rhythm, and there were no murmurs. The abdominal walls were very lax, the stomach under inflation was in normal position and washing out when fasting failed to show any residue, nor was free acid found in the washings. There was no enlargement of the liver, but under the right costal arch just inside of the mid-clavicular line there was marked resistance which could not be distinctly circumscribed with the fingers, but moved with inspiration, and pressure at this point caused a sense of nausea; the right kidney was palpable farther down so that this resistance was taken to be associated with the gall bladder, though it was not fluctuating. The urine showed a small amount of bile coloring matter but was otherwise without significance and the feces gave a diminished Ehrlich test for stercobilin and contained more than the usual amount of fatty acids. This individual had undergone a most thorough course of hydrotherapeutic measures before I saw her, a diagnosis of "gastric catarrh" having been made, but all without avail; while the symptoms were largely gastric and seemed wholly of nervous origin, since no organic change of the stomach could be found, still they were of a reflex type and undoubtedly depended either on gallstones or on adhesions arising from an old cholecystitis. Hence the cold water treatment was inapplicable, and while some relief was obtained from careful dieting, sodium oleate and the cholates of sodium to the extent that the bile pigments disappeared from the urine, an operation, which was refused, would have been the proper treatment.

The history which I wish to contrast with the former is that of an individual in whom many of

the same symptoms were complained of, yet, as the history will show, differed very much in the cause of the illness and in the outcome.

4. E. W., a woman thirty-four years of age, at sixteen years had an attack of epigastric pain during which she fainted but did not vomit. At eighteen years she had distress spells after eating, continuous, which disappeared after her marriage and first pregnancy. Ten years ago began to have pains when her stomach was empty, which were relieved by eating but never accompanied by vomiting. Six years ago had severe pain after eating (thirty minutes to an hour) which was not accompanied by vomiting but which was pronounced by physicians to be due to an ulcer. Since that time she has had a gnawing pain when her stomach was empty, extending to her shoulder blades, particularly when she was tired, but usually relieved by food. Though her appetite is excellent, she feels full after a few mouthfuls, and after the food is eaten has eructations of gas which are noiseless but never of fluid. She also has eructations in the early morning, which makes her think that there is food there. No heart burn, bowels regular, is extremely nervous because of the fear of an ulcer and an operation which had been suggested by another physician. She has had no headaches but often passes sleepless nights, not from pain, but because she cannot fall asleep. She is employed in a large store as cashier where on certain days she handles large sums of money and worries for fear that she will make a mistake. Menstruation normal. Examination showed a full-blooded well-nourished woman of short stature weighing 140 lb., her usual weight. Her tongue was lightly coated, reflexes absolutely normal with no changes in heart or lungs. Nothing abnormal about the liver, no tenderness over the gall bladder nor spasm of the rectus. There was no succussion of the stomach ten hours after a meal of bacon and eggs and corn bread, and upon introduction of the tube no food residue was found and only a few cubic centimeters of frothy fluid containing no hydrochloric acid. Subsequent washing failed to remove any food fragments. Under CO<sub>2</sub> inflation the stomach extended to the navel and but slightly to the right of the linea alba. There was vague tenderness over the epigastrium and up the right side of the spinal column from the twelfth dorsal to the level of the scapular angle but nowhere localized. After three days' meat-free diet the stool showed no test for blood (Weber). After the test breakfast the gastric contents came gushing out around the tube, smelt strongly of butyric acid, were made up of more than half solid material and had acidities of 7 and 54. Five smaller meals were recommended in order to keep some food in the stomach all the time as I found the stomach emptied rapidly, and a vigorous cold water treatment was installed, with the result that in one month the pain had entirely disappeared, eructation was less though it occurred at times, and another examination of the gastric contents gave a well-digested material with the normal proportions of fluid and solid restored, free hydrochloric 19, and total acidity 55.

It can be plainly seen how difficult it sometimes is to disentangle the spurious from the real, to determine whether there is an actual pathological condition to account for symptoms which seem so similar; it is useless to say because an individual shows certain manifestations which are clearly recognized as neurasthenic, such as were manifested in this patient, trembling, weeping easily and periods of confusion in the head, that we

must have a nervous dyspepsia before us, for it is well known that continued pain can soon render the strongest of us fretful and imaginative. Many a patient is unjustly accused of the stigmata of hysteria and neurasthenia or, as the earlier New Englanders used to call it, "being spleeny," when a string of symptoms is reeled off never "dreamt of in our philosophy," but we must at least, as in the case of the accused criminal, give them the benefit of the doubt and exercise our greatest ingenuity in excluding any possibility of a diseased condition, and by that I mean of course a pathological one. It appears to me that in these abdominal disorders the first function of the physician is to separate the functional from the organic disease, no small matter, and then treat the former class simply as neurasthenics without any special reference to the particular phase which their functional disorder assumes, that is, whether hyperchlorhydria, achylia, lack of tone or regurgitation.

Having established, then, the fact that you are dealing with a simple nervous dyspepsia and not a reflex from some other diseased organ acting on the stomach functions, the choice in the form of the application of the cold water treatment must be made according to the circumstances as well as the prejudices of the patient. The simplest, of course, is the cold sponge followed by a brisk rub in the morning upon rising, particularly applied to the abdomen, since it is there the patients insist the trouble lies. This can also be assisted by the morning glass of cold water taken in sips, particularly if the patient have constipation. More practical still is a couple of handfuls of water dashed over the abdomen and rubbed in much as the face is washed. A couple of towels wrung out of cold water pinned about the abdomen for five minutes morning and evening also fill the demand, and the evening application covered by a dry bath towel may be worn all night during the sleep. At present the cheap bath sprinklers which are sold at many of the drug stores and can be attached to any bath tub, fulfill the need admirably, and five minutes of the cold needle spray or alternation of warm and cold spray, which can be easily accomplished on account of the double attachment, provide a stimulus which will cause the dyspeptic doldrums to disappear for the day. Thus at a small expense the individual of moderate means may procure the greatest advantage of the more fortunate individual with modern bathroom equipment, the spray. Best of all, but most difficult to apply on account of the prejudice of humanity, is the cold plunge, which should be limited to momentary immersion of the body in the cold water and then a brisk rub down with bath towel or, better still, the elephant ear mits made of coarse toweling. The reason for the objection of the laity to the cold plunge seems to me to be due to the fact that they have improperly carried it out, remaining in the water until thoroughly chilled in a spirit of becoming a hero to the treatment and failing to respond promptly to the reaction which always follows, if the party is not too inclined to

regard the treatment as a penance and castigate himself too severely. So much for the external use of cold water, but we are by no means restricted to this limited use; many a nervous dyspeptic swears by some of the well-advertised spring waters for his so-called cure of his difficulty; waters, as far as chemical analysis goes, not differing from the well or Cochituate, simply from the fact that pure cold water taken when the stomach is empty has the power of stimulating the flow of gastric juice as well as diluting an overacid gastric juice in continuous secreters, so-called, which at least brings alleviation of the symptoms complained of. True, the amount of gastric juice excited by water is small and slowly produced, but such an insignificant amount excites appetite which in turn arouses more gastric juice; this simple glass of cold water, not ice water, taken twenty minutes before the meal persistently, will be sufficient spur to start the course of digestion when followed at the interval mentioned by food; the reputation of the cup of hot water before meals has become firmly established in the minds of the laity and, as stated, there is a physiological reason for its use.

While a great deal of nonsense has been associated with the rectal injection or clyster, and the so-called internal bath with its injection of four quarts is the most ridiculous of all, if not positively dangerous at times, we have never yet exhausted the influence of the cold water clyster of a pint to a quart in stimulating both secretion of intestinal juices as well as the gastric juice, since it has been found that an injection of water at the temperature of faucet water introduced by means of a colon tube excites a flow of gastric juice much as water introduced into the large stomach of a Pawlow dog causes a flow of gastric juice in the smaller artificial stomach.

Simple as this hydrotherapeutic treatment seems, and easily adapted to the means of the poorest, yet it is almost impossible to conceive how difficult it is to carry it out thoroughly. First it is necessary to convince the patients of its efficiency, and to do this much more must be claimed for it than is actually justifiable; all are convinced of the advantages of the Turkish bath, but as no one is interested in selling water which comes from the faucet, many people are skeptical of its use in this way because it is not pushed with the vigor and éclat of many modern methods of treatment. Then there is among the less intelligent and, I am sorry to say, among some of the more intelligent, the fear of taking cold; while it is not always well to use the knowledge imparted in novels as proof of a point, yet Cooper states in the "Sea Lions" that the crews who spent the winter where the thermometer dropped to 40 below zero every morning, dashed cold salt water over each other to enable them to withstand the cold and received nothing but good from this practice, and we know that some bathe in the ocean all winter long; at least I have never been able to verify a cold from such application of cold water; in fact, always the reverse. With these people we have to temporize by allowing

them to fill the bath tub over night, during which period the water loses its chill and often also, it must be confessed, its tang, which is its chief remedial value. Then there is the individual in whom the morning glass of cold water is said to produce stomach cramps; this I have investigated and found that rapid swallowing of large mouthfuls, or gulping as it is called, by which a large quantity of air is swallowed at the same time, is the cause rather than the water or its temperature; by telling patients to sip the water, this disagreeable effect may be overcome.

Then comes the pallid, doubting, indecisive individual who has inherited the inertia of three generations and none of their force, who declares that chilliness follows the morning plunge which lasts for several hours; if the Creator will place such persons in our midst our patience must be as great as his and we may learn that directions in regard to the time to be spent in the bath has been exceeded or that there is a slow reaction or that the result is purely imaginary; the first can be readily remedied, the second overcome by a hot drink followed by a few brisk turns about the room wrapped up in a blanket much as horses are exercised after a race; the third we will have to yield to the psychotherapist, as the hydrotherapist has no panacea for him.

Now as to the colon irrigation with cold water for its tonic effect and not for constipation or cleansing purposes, though it does both; first, we meet with the patient's protest that a pint of water cannot be retained for ten minutes. There may be two reasons for this: the rectum may be packed with feces, in which case, allow a half cupful or more of the water to flow into the rectum, which is to be immediately ejected, carrying with it a mass of feces, when the rest of the water can be retained without difficulty; or there may be air in the tube which patients do not think of unless its removal is called to their attention. Then there are persons who have all reflexes exaggerated and with whom an injection of a pint of water is claimed to produce great distress, if not pain; such persons should be content with a cupful at first and should assume the knee-chest position for a moment or two, when the intense bearing-down feeling will be stilled and the water readily retained for the customary ten minutes, when the amount can be gradually increased to the full pint.

Again we run against the prejudices of those who conceive the idea or are sometimes told by good physicians that the constant colon washing will soon become so necessary that the bowels will not move without it. Such has never been my experience where the amount has been limited to a half liter and has been introduced with the colon tube, and many of my patients have used it for months without changing in any way their habit of defecation. What large quantities of water may do in the way of distending and impairing the motility of the colon, I cannot say as I have never employed those large quantities; at least one case is reported where an ignorant peasant attached the colon tube to the faucet and



ruptured his colon, but in this case it was evidently pressure and not volume that produced the untoward result.

That the excellent results obtained by the cold water treatment of purely gastro-intestinal manifestations of neurasthenia are not wholly psychological is proven by the difficulty of exciting much mysticism in the mind of the patient over faucet water; one cannot claim with the most ignorant patient that it has radio-active qualities or that it has been blessed by a saint, qualities which would give it psychotherapeutic qualities; the least one can do is to add sea salt to it, which may increase the mental effect of the treatment but can hardly change its hydrotherapeutic qualities, and the Turk's Island variety under some one's proprietary name may be still more efficacious in the former quality.

All these observations are as trite and old as the first work ever published on hydrotherapy, and I can only hope to arouse more interest in this manner of treatment for those individuals who have not the means to possess modern bath-rooms with their needle sprays nor to frequent the very excellent hydrotherapeutic institute which Boston possesses. Then it forms a fairly uniform and certain treatment for those chameleon-like cases which one physician treats with alkalis at one period for a demonstrated hyperchlorhydria, another physician at another with acid for an achylia, and within a short time I found a patient with prescriptions for both acid and alkali, being taken two hours apart, with the evident intention of scotching the head of the serpent, whichever way he might turn; such are the vagaries of nervous dyspepsia. Nervines are practically useless and opiates not to be thought of for the discomforts of these victims.

#### HEMOPTYSIS. ITS SIGNIFICANCE AND TREATMENT AT OUT-PATIENT DEPARTMENTS, DISPENSARIES AND IN PRIVATE PRACTICE.

A STUDY OF 114 CASES FROM THE OUT-PATIENT DEPARTMENT OF THE MASSACHUSETTS GENERAL HOSPITAL, BOSTON.

BY JOHN B. HAWES, 2D, M.D., BOSTON,

*Assistant Physician to Out-Patients, Director Tuberculin Department, Massachusetts General Hospital; Secretary, Board of Trustees of Massachusetts Hospitals for Consumptives.*

THIS paper is based on a study of 114 patients in whom the diagnosis of hemoptysis was made, with or without any additional qualifying diagnosis, since the opening of the present Out-Patient Department of the Massachusetts General Hospital in July, 1903, to January, 1912. The ages of these patients are shown by the following table:

TABLE I.  
AGES OF PATIENTS.

	Patients.
1-10 years	3
11-20 "	23
21-30 "	44
31-40 "	26

	Patients.
41-50 years	13
51-60 "	3
61-70 "	2.

In this series there were 9 children fifteen years old or less. In 6 of these pulmonary tuberculosis was considered to be the cause of the bleeding; of the 3 others enlarged tonsils and a subsequent faulty condition of the throat accounted for the bleeding in two instances, while in the case of the third the blood was found to come from the nose.

Of these 114 cases, 60 were diagnosed on the records as "hemoptysis"; the remaining 54 were given an additional diagnosis as follows:

TABLE 2.  
DIAGNOSIS OF PATIENTS.

Diagnosis.	Number of cases.
Hemoptysis,	60
" Ph. (?),	19
" Ph.,	19
" Pregnancy,	2
" Gastric ulcer,	2
" Nosebleed,	1
" Chronic intestinal nephritis,	2
" Cervical adenitis,	1
" Enlarged tonsils,	2
" Pharyngitis,	1
" Laryngitis,	1
" Lung abscess,	1
" Influenza,	2
" Cirrhosis of liver,	1
Total,	114

There were 78 patients, or 68.3% of the total number, in whom pulmonary tuberculosis was either definitely proven or strongly suspected. Of these 78 patients, 11 were at once admitted into the hospital on account of active hemorrhage while in the out-patient department; there were 28 patients who were given "superficial examination only on account of hemorrhage," as stated on the records, and who were sent away and told "to return with their sputum" in a few days. These 28 patients, 35.8% of the total number, diagnosed as pulmonary tuberculosis, or strongly suspected of having it, *never returned*; it is very likely that in a few of these the hemorrhage was not from the lungs and the patient's health did not suffer; in the vast majority, however, the hemorrhage undoubtedly came from the lungs and meant pulmonary tuberculosis incipient or advanced. The 11 patients who had the good fortune to bleed while at the hospital were at once put to bed, carefully observed and given the best of advice and treatment; in the case of the 28 who did not return after their first visit, nothing was accomplished.

I am far from insisting that every patient who comes with a definite history of hemorrhage from the mouth should at once be classified as a consumptive without further study. In children, as shown in the figures here presented, enlarged tonsils and adenoids may be the cause; in children and adults, pharyngitis and laryngitis, chronic or acute, will occasionally account for the bleeding; rupture of small vessels in the nose can cause it; the blood may come from a gastric

ulcer, a liver cirrhosis or in the course of cardiac disease. Certain chronic pulmonary infections, especially influenza, as clearly shown by the work of Dr. W. H. Smith, of Boston, will cause hemorrhages simulating in every way those occurring in phthisis. I recently had a patient referred to me who had been definitely told that she had consumption because of frequent spitting of small amounts of blood. There was absolutely nothing in her history or on physical examination to indicate tuberculosis; the teeth and gums were in wretched condition, however, and since a visit to her dentist every trace of "hemoptysis" has disappeared.

Making all due allowance, nevertheless, for the other causes of blood-spitting as suggested above, the fact remains and should be universally acknowledged that a hemorrhage from the mouth in the absence of a definite source elsewhere which can entirely and satisfactorily explain the bleeding should be considered as positive evidence of pulmonary tuberculosis even if the physical signs in the lungs are of the slightest. Last year a patient consulted me because of a slight hemoptysis. The family history was bad, but the physical signs were very slight. I sent him to a throat specialist, who reported that he could see the blood oozing from a small vessel in one tonsil. The next day the patient raised a small amount of sputum, in which I found a few tubercle bacilli, which made it extremely improbable that the blood came from any other source except the lungs. In a recent paper I have shown that out of 500 patients who were then in Massachusetts sanatoria, mostly in the moderately advanced or advanced stages of consumption, 81 first consulted a physician because of a hemorrhage, and that 39, or 48%, of these were told by their physicians that the blood did not come from the lungs and that they did not have consumption. These figures show the great need of caution in telling any patient who has had a hemorrhage, however slight, that the blood does not come from the lungs and does not mean consumption.

What, then, should be the attitude of out-patient departments and dispensaries toward the patient who comes to the clinic with a history of spitting blood, and how should such patients be handled? Again, and of still greater importance, how should the general practitioner regard and advise such patients?

Taking first the question as it applies to out-patient departments and dispensaries, I am strongly of the opinion that the only satisfactory solution is the establishment of a tuberculosis department or clinic to which all such patients can be referred for careful study. This is the case at the Johns Hopkins Hospital, where all such cases are at once referred to the Phipps Tuberculosis Dispensary, one of the regular departments of the hospital; the same is true at the Boston Dispensary. At the two largest clinics in this city, however, those at the Boston City Hospital and the Massachusetts General Hospital, there is no such arrangement; cases of this nature at the Massachusetts General Hospital

at least go at once to the male or female medical departments, and are here first seen by a student assistant and later by the visiting physician. The latter, who may or may not be interested in tuberculosis, and who also always has a large number of new patients of all kinds to examine, cannot, and, except in a few instances, does not take time to explain to the patient the exact situation. The result has been in the past, and I believe will continue to be in the future, that many patients, coming to the hospital on account of a hemorrhage, will be kindly but briefly told that it is not safe to examine them on that day, but that they must return with their sputum in a week. My figures show that a large proportion of such patients, 35.8%, do not return. If, however, these patients could be referred at once to a special department where only such patients are taken and where physicians in charge are deeply interested in the subject, the result would be different, especially if there is a nurse or visitor (and no such clinic is complete without one) to follow up these patients into their homes and see that they report at the proper time. This I believe is the only solution of the difficulty and applies, of course, not only to the comparatively small group of cases of hemoptysis considered in this article, but also to all tuberculosis or suspected tuberculosis patients.

With the general practitioner and the private patient the case is different. Here there is no special department available to which to refer such patients, nor is it always possible to refer them to a specialist in case of doubt. With many patients, the greater number perhaps, the difficulties will not be great. Either the hemorrhage can be explained from some other cause, not tuberculosis, as mentioned above, or there will be found even on "superficial examination" of the patient, his history and symptoms, sufficient evidence to make a definite diagnosis of phthisis. In the doubtful cases, however, I believe there is but one safe course to pursue—to consider the case as tuberculosis, to treat it as such, and, most important of all, to see that the patient clearly and thoroughly understands the situation. Then, if he does not report for further examination or does not follow the advice given, the physician at least has done his entire duty.

The early diagnosis of pulmonary tuberculosis is of such great importance not only to the individual but to the community at large that it is the physician's urgent duty to use every means available to make such early diagnosis. While hemorrhages may and often do occur in any stage of consumption, often it is the case that such a hemorrhage is one of the earliest indications of trouble; it is all the more important, therefore, to bear this in mind, and, in cases where there is the slightest doubt as to the exact source of the bleeding, to consider the spitting of blood as strong evidence of pulmonary tuberculosis.

#### SUMMARY AND CONCLUSIONS.

1. At the Out-Patient Department of the Massachusetts General Hospital from July, 1903,

to Jan. 1, 1912, 114 patients came to the hospital because of hemoptysis.

2. Of these 114 patients, 9 were children fifteen years old or less. In 6 of these pulmonary tuberculosis was considered to be the cause of the bleeding.

3. Seventy-eight patients, or 68.3% of the total number, were either strongly suspected or proven to have pulmonary tuberculosis.

4. Of these 78 patients, 11 were at once admitted into the hospital on account of active hemorrhage while in the out-patient department. Here they were given careful study, treatment and advice.

5. Twenty-eight of these patients, or 35.8% of the total number diagnosed as pulmonary tuberculosis or strongly suspected of having it, never returned and thus received no adequate treatment for their condition.

6. In order to properly handle patients with pulmonary tuberculosis, or patients suspected of having it, in large out-patient clinics or dispensaries, there should be a special department devoted to this work.

7. The general practitioner should bear in mind that unless there is definite evidence to the contrary and a source for the bleeding found in the gums, throat, nose or elsewhere, a hemorrhage from the mouth means pulmonary tuberculosis and should be treated accordingly.

### ON THE PREVENTION OF OPHTHALMIA NEONATORUM.

BY ROLAND C. MACKENZIE, M.D., BOSTON,

*Ophthalmic House Surgeon, Massachusetts Charitable Eye and Ear Infirmary.*

EVEN in this enlightened period, with the best intentions of all concerned, babies in our state and elsewhere are still becoming blind and so, disabled for life as a result of infantile ophthalmia. What is to blame for this terrible sacrifice? — Is it the laws of our Commonwealth? — Is it the ignorance of our physicians, due to their false or inadequate teaching in the medical schools, or their fruitless search for proper therapeutic measures? — Or is it the negligence of those directly concerned that prevents these little beginners from having an "equal chance" in their fight for existence, and helps fill our asylums? To be sure the primary cause of this condition is in the widespread prevalence of venereal disease, fought unrelentingly, but even so, to less avail than is this single phase of the subject. The unfairness of the idea that the innocent child should suffer for the uncleanness of the parent, whether innocent or otherwise, is surely too obvious to let go unheeded. Blindness from Ophthalmia Neonatorum is preventable, and it behooves all concerned to do their utmost to prevent it in the interests of humanity and economy. This responsibility rests in the greatest measure with the individual members of the medical fraternity.

To those unacquainted with the relative frequency of ophthalmia of the newborn, the even

partial summation of the statistics for it is truly astounding. The fact that there were 388 newly-born infants admitted to the wards of the Massachusetts Charitable Eye and Ear Infirmary in a period of four years may mean something to them. The majority of these cases came from Boston and its immediate vicinity, and so does not include the probably greater number occurring in other parts of the state, and those treated privately. However, this series seems to be of sufficient size to draw from it certain conclusions.

The results of this disease are equally astounding: Of these 388 babies, 23 were discharged from the hospital totally blind and 42 partially so, all so disabled that their future livelihood is made seriously more difficult. In a fairly recently published report of a committee appointed to study the causes of blindness in New York asylums, of 50 cases taken at random and tabulated, 14.51% were due to Ophthalmia Neonatorum. And so throughout the various asylums of the country, this disease has been attributed as the cause of blindness in astoundingly large percentages, even as high as 30% in some.

The frequent serious results from this disease and also the occurrence of it has been greatly diminished during the last decade, undoubtedly by the educational campaign carried on by our Boards of Health, by the State Commission for the Blind, and by various other interested public institutions. Unquestionably, by their combined efforts, the percentage of neglected cases has been reduced about two thirds. The humanitarian and economical influence of this fact is inestimable. This is not enough, however, for there is still another third to be accounted for: of the 388 cases treated at the Eye and Ear Infirmary in the last four years, the vision of 67 was affected at the time of their appearance at the hospital. A large part of these were the results of neglect or ignorance on the part of some one, far too large a majority. Let us see who was to blame.

Of this series of cases, 272 were attended at birth by physicians in private practice, 30 by dispensary physicians, 63 by physicians in hospitals, 3 by doctors employed by the city, 10 by midwives, 3 were unattended, and in 5 cases the attendant could not be determined. However, in considering these statistics there are several factors to be taken into account, — principally the relative amount of practice done by each, and the class of the patients constituting the practice of each (assuming that gonorrhea is more prevalent in the lower and foreign population). Probably one very nearly balances the other. Still, of the 65 babies who became blind or partially so, there were 55 cases or over 20% of all those occurring in private practice, 4 cases or about 6.3% of all attended by hospital physicians, and 3 cases, or 33.3%, of those attended by midwives. By these few statistics the obviously culpable ones are undoubtedly the physicians themselves; what else but gross evidence of incapability on their part.

The general practitioners have still much to

learn on this subject, and the parents know absolutely nothing of it. As to the latter, their ignorance is pardonable; as to the former, our medical schools are to a certain degree primarily to blame, for far too little stress is laid on the importance of prophylactic measures and the necessity of immediate and proper attention when once the disease is established. This fault is not solely confined to our weaker schools, for graduates of our larger and better ones are too often in error, also.

Crédé brought the incidence of cases in his lying-in clinics from 20% down to .2% by a very simple routine procedure: As soon as the babe is born, even before the cord is cut, its eyes are carefully washed out with a warm solution of boracic acid; then later, while the child is being bathed, a drop of either 2% silver nitrate (never stronger), 25% argyrol, or 10% protargol is instilled into either eye. This method is compulsory in many foreign countries and in many states of our own country; and the results in those places where the law is faithfully enforced are sufficiently gratifying to brand it as a good one.

The only objection to this method seems to be a pretty weak one: physicians complain that the parents frequently consider it as an insinuation as to the purity of themselves, and thereby the physician's practice is injured. This argument seems easily met if it is explained that ophthalmia is not necessarily caused by the gonococcus alone, but may be due to any of the many varieties of bacteria found in the birth canal of the mother. Surely every physician would insist on similar precautions if the child was his own.

As stated above, prophylaxis is made compulsory by law in some foreign countries and also in some of the states of this country. Where the letter of the law is enforced, its value is easily proved; but too often it seems that the spirit of it is lacking in too great an extent, and it is little more than worthless. Indeed, our own law, although only a compromise, is, as at present enforced, much more efficient. But, sad to relate, there have been several cases in which, although report was made to the local board of health in due season, no action was taken by either them or the physician to insure proper care till too late. So it does not seem out of place here to urge those officials who have so effectively prosecuted neglectful physicians in not properly reporting cases, to be equally assiduous in carrying on their part after once they are aware of the existence of the disease.

Crédé's method is the one more generally used in this country and, as stated before, has been proven an efficient one. In other countries particularly, other methods have been used with equal and sometimes better success. In France, Valude states, in comparing the relative efficiency of various measures used prophylactically in the Hospital St. Louis, that it was found that iodo-form powder dusted into the eyes before the section of the cord brought occurrence of the disease down to 5% of all births where with the use of silver it had been 7 to 8%. Equally remarkable results were obtained in the Hospital

Parnier, where its occurrence was reduced from 6% to 2%. The carefully directed use of boracic acid and the silver preparations we believe here to be of as great efficiency, however.

The physician's responsibility does not rest with the use of prophylactic measures alone, for our therapeutics are by no means infallible; as careful observation should be made of the child's eyes at each visit as is made of the cord stump, or of the temperature or pulse of the mother; this observation to be made under a good light and particular note made of any swelling, redness or discharge. Probably many of those practitioners who conscientiously use prophylaxis as routine fail to consider these latter important duties.

Once the disease established, what should the physician do? Textbooks are numerous and quite fully explain the therapeutic measures to be applied; hence it seems needless to propound them here. One important fact they do not mention, however, is the absolute necessity of careful and efficient nursing. The importance is but recently emphasized by a case which not long since came under our observation, — that of a small child with purulent ophthalmia, probably of an otherwise benign type, who through the diligence of the attendant in her efforts to wipe away all the secretion had lost most of the epithelial layer of his cornea, and so given the infecting organisms the chance to ravage the deeper layers of that structure at will; the result, a blind baby. The other extreme, that of not sufficiently washing away the discharge, is probably more frequently the fault. This is inestimably important, for washing away the rapidly increasing discharge is undoubtedly more efficient in combatting the disease than all the various germicidal agents employed. The attending physician should make himself responsible that all these precautions are properly heeded and the attendants properly instructed; and, furthermore, himself watch the cornea for even the slightest haziness, a warning, but often seen too late.

Now considering all; how many physicians in this state feel that they are conscientiously doing their part in the prevention of this dread disease? Truly, their part is the important one, and the value of their efforts is to be appreciated most fully by the next generation. Until we have corrected our inefficiencies we cannot hope to be taken seriously as the teachers of others. The fact remains, — blindness occurs almost daily as the result of conditions insufficiently appreciated by the physicians of our state.

### Clinical Department.

#### SALVARSAN AND MEASLES: A CLINICAL NOTE.

BY LOUIS L. WILLIAMS, M.D., BOSTON,

Surgeon, United States Public Health and Marine-Hospital Service.

L. M., male, twenty-two, mulatto, suffering from secondary syphilis with slight glandular enlargement and syphilitic orchitis (Noguchi reaction positive)

was given .6 gm. of salvarsan intravenously on March 31, 1912. He vomited during the night and on the morning of March 31, 1912, had a temperature of 40° C.

April 1: Temperature, 39° C., and slight coryza.

April 2: Temperature 38° C. A typical measles eruption has developed. Koplik spots are seen on the buccal mucosa, and the conjunctivæ are injected. The attack of measles pursued a mild but typical course, the temperature becoming normal on April 4.

The injection was evidently given a few hours only before the onset of measles and seems to afford some evidence that salvarsan does not affect the development and course of the latter disease. In view of the antagonism of salvarsan to some of the pathogenic protozoa, the coincidence noted above may have some bearing upon the question of the nature of the organism concerned in the causation of measles.

### Reports of Societies.

#### THE AMERICAN ASSOCIATION FOR CANCER RESEARCH.

FIFTH ANNUAL MEETING, PHILADELPHIA, APRIL 3 AND 4, 1912.

- (a) FURTHER STUDIES ON THE NATURE OF CANCER IMMUNITY THROUGH THE CULTIVATION OF TISSUES OUTSIDE THE BODY.
- (b) A COMPARATIVE STUDY OF NORMAL CELLS AND CANCER CELLS IN TISSUE CULTURES.

DR. R. A. LAMBERT, New York: The results of the experimental work point to the presence of an antagonistic element in the plasma of the other animal rather than to a mere absence of suitable foodstuff. The recognized difference in the behavior of cancer cells and normal cells in the body are also found in cultures.

The growth from frozen tissue was quite good, although not so extensive as with untreated tissue. Animal inoculation from the frozen tissue was positive. Embryonic tissue that has been frozen at various temperatures showed that there was no certain low point at which the cells were killed or survived. The effect of heat confirmed Dr. Loeb's results that 45° for an hour destroyed the cells. We used the hot-air incubator, the results with which must differ from those obtained with the water-bath. There is apparently no great difference in the resistance to heat between normal and tumor cells.

#### DISCUSSION.

DR. LEO LOEB, St. Louis, President of the Association: In several communications, I have drawn attention to the differences between normal and cancer tissue. On the whole, I did not find any marked qualitative difference, but there are a number of quantitative differences, in the activity of growth, in the invading and phagocytic properties and in the resistance to injurious influences.

DR. W. GAY EWING: I never succeeded in getting dog-tumor cells to grow in dog-plasma, except in one case. I concluded that dog-tumor cells possess much less capacity to grow in these conditions than do the tumor cells of lower animals.

DR. G. N. CALKINS, New York: I should like to ask whether the cells degenerated at all in the process of growth.

DR. LAMBERT: The cells did degenerate. This made it necessary continuously to transfer the tissues, in order to keep them growing.

- (a) TUMOR INOCULATION INTO ORGANS, AND THE ANALOGY BETWEEN THE TUMORS OF THE WHITE MICE AND RATS AND HUMAN CANCER.

- (b) CHANGES IN THE TISSUE SURROUNDING A GROWING TUMOR, AND THE SIGNIFICANCE OF THE PRE-CANCEROUS STATE.

DR. ISAAC LEVIN, New York: (b) Some men claim that the inflammatory or other abnormal condition preceding the development of cancer is the main condition in the genesis of malignant tumor. Others claim that the condition is the result of the irritation upon the surrounding tissue caused by the growing cancer. We usually meet the two conditions side by side, and it is very difficult to decide which is the one that precedes the other in time. To determine this, I made an experimental study of tumors of white rats and mice. The conclusion that I have drawn from this study is that a pre-cancerous condition may exist in some cases, but that in others, the so-called pre-cancerous condition may actually be a post-cancerous one. We ought to consider that in any region in which a cancer develops and grows, there is a peculiar interaction between the normal organ cells and the cancer cells. The main factor in the growth of cancer in the organ is the general resistance or general susceptibility of the organ.

(a) Von Hanseemann, in a recent publication, has expressed himself very emphatically against any analogy between human cancer and the tumors of rats and mice. I decided to take up the study of this subject anew to show that in my estimation he is not correct. My studies showed that the spontaneous tumors of rats and mice are malignant in their biological behavior. In regard to the inoculated tumors, I believe that all those characteristics which make for a more benign growth in them are due to the technic employed in the inoculation. My investigations for the last year or so, in inoculating the same tumors into different parenchymatous organs, have shown me that these tumors behave like actual malignant growths, quite differently from the way in which they behave when inoculated subcutaneously.

#### DISCUSSION.

DR. C. O'CONNEL: In one instance, after having removed a large subcutaneous growth from a mouse, I found a metastasis in the lung, showing infiltrated structure with replacement.

DR. JANEWAY: Two years ago, I demonstrated sections from very early epitheliomata of the skin obtained from a number of cases with multiple epitheliomata of the tissues. In them, there was no change in the surrounding tissue.

DR. E. E. TYZZER, Boston: It looks to me as if this inflammatory condition that Dr. Levin produced were a pre-implantation state, rather than a pre-cancerous one.

DR. LOEB: Dr. Levin's observations bear on the growth of cancer, while the pre-cancerous conditions are supposed to be responsible for a transformation of normal into cancerous tissue.

DR. H. GIDEON WELLS, Chicago: The cancer cells appear a certain distance from the blood vessels, in both the mouse and the human being; but this distance is much larger in proportion to the size of the mouse than to that of the human being. This explains the discrepancy between the size of the tumors in man and in animals. I believe that one can study pre-cancerous conditions without knowing anything at all about the

real genesis of cancer. It is not a normal epithelial cell that develops into a cancer, but one that is changing in one manner or another. We have as much right to compare these conditions in the lower animals with human cancer as we have to compare tuberculosis in animals with human tuberculosis.

(a) FURTHER OBSERVATIONS ON COMPLEMENT DEVIATION IN CANCER CASES.

(b) COMPARATIVE STUDY OF BLOOD REACTIONS IN CANCER AND OTHER PATHOLOGICAL CONDITIONS.

DR. G. H. A. CLOWES, Buffalo: (a) It has recently been claimed that all cancer cases give a complement deviation when their serum is used in conjunction with a cancer-bearing antigen, but does not when used in conjunction with a normal antigen. Our results are entirely contrary to that. The complement deviation is fairly regular with the normal as well as with the cancer antigens. The heated cancer serum loses its reaction markedly, whereas the syphilitic serum does not. The gonorrheal reaction is very specific. It is given only in gonorrheal cases and in strongly deviating syphilitics. Strongly deviating cancer cases do not give it.

(b) The antitryptic reaction was the most important one studied. Experiments were made with a large number of cases. The cancer cases all gave an antitryptic reaction. It is much greater in these than in other cases, though many other diseases give it to some degree. Its principal value is in complicated cases, in which there is an element of doubt. The evidence of all the work done shows that we may some day hope to control cases in a measure by means of tests made from the blood, and the evidence of these tests is strongly in favor of demonstrating that cancer bears a certain relation to diseases of a known parasitic type.

DISCUSSION.

DR. EWING: I should like to ask whether Dr. Clowes has made an effort to determine whether the heating process does not diminish the activity of the reaction, by testing various amounts of the serum showing it. The argument for the parasitic theory of cancer is based on the fact that both cancer and syphilis possess a peculiar anticomplementary property. This has nothing to do with the specific causes of syphilis.

DR. CLOWES: The difference between cancer and syphilis is simply that the body, when present in the cancer serum, is more susceptible to heat than that present in the syphilitic. The late serum of certain cancer cases gives a deviation, whereas the late serum of syphilis does not. Treating both side by side, the reverse is true when we use the heated serum. The effect is greater on this particular body in treated cancer cases. We did find lines of analogy between the cancerous and the specific reactions. Cancer comes more nearly into the class with syphilis than anything else so far recognized.

QUANTITATIVE STUDIES IN IMMUNITY TO CANCER.

DR. LEO LOEB and DR. MOYER S. FLEISHER, St. Louis: We produced various degrees of virulence through a graded effect of moderate heat, to which the tumor was exposed before inoculation. We found that the changes produced by a tumor are definitely related to the degree of virulence of the tumor material used. We found four types of resistance: (1) Exclusive growth, a very virulent tumor resisting the growth of a weak tumor; (2) concomitant growth, two very virulent tumors, or a very virulent tumor and a tumor of somewhat decreased virulence, or two tumors of markedly

decreased virulence, growing usually in combination (if one of the two does not grow, the other does not grow); (3) concomitant stimulating growth, a tumor of markedly decreased virulence and a tumor of greatly decreased virulence not only showing concomitant growth, but also stimulating each other's growth; (4) alternative growth—after two successful inoculations with material of very much decreased virulence, either the first or the second tumor grows. Concomitant growth is here exceptional. We purpose to extend our investigations in various directions.

DISCUSSION.

DR. CLOWES: I should like to ask whether the effect that incubating for a short period has on tumors of a low degree of virulence was considered. In our experiments, very virulent tumors were greatly diminished in activity, while in certain cases tumors of very low virulence showed an increase in their virulence.

DR. LOEB: Several years ago, Dr. E. Corson White and I did some experiments of that kind, and found that greater virulence may result in some cases; but in other cases we did not observe it.

(a) SINGLE FREE LIVING CELLS — PROTOZOA.

(b) ON ANIMAL TISSUE.

DRS. G. N. CALKINS, ROHDENBURG, and BULLOCK, New York City: (a) We have recently made some experiments to determine whether the process of cell division may not be due to an accumulation of certain substances in the cell. Various products of nucleoprotein breakdown were tested experimentally on free living cells and on tissues of normal rats. Four lines of descendants of a ciliated protozoan were used, and the division rate of all four lines of cells on the average for five-day periods was charted. After having been going on for about ten or fifteen days, the division rate was found to be 22 in ten days. It rapidly fell, until in about two months it was but 4 in ten days. It then rapidly rose to a second high state. The organisms were then tested with these various chemicals. From none did there seem to be a very marked effect in either stimulating or depressing the vitality, as represented by the division-rate. The slight effects noticed are difficult to interpret, and do not warrant any premature conclusions. The work will be continued.

(b) In the experiments with tissues, the various chemicals mixed with 2% agar jelly were injected intraperitoneally, while liquid, into different species of rats. The use of agar allowed a thorough mixture of the chemical, retarded the phagocytic action of the leucocytes, allowed the new cells in their growth to come in contact with the chemical, and held the chemical firmly fixed so as to permit of a longer action by slow absorption. The results of the experiments suggest that in certain conditions a death of tissue acts as a stimulant to the process of cell division; and that this stimulant is of a chemical nature, although not specific for any one chemical body or combination.

DISCUSSION.

DR. S. B. WOLBACH, Boston: In some experiments conducted by Dr. Mallory and me, we got a very extensive acute reaction after the first few hours following the injection. The destruction of tissue in the neighborhood of the agar was much more marked than we had anticipated; and it is quite probable that some of the reactions shown in the slides were due to repair of that initial inflammatory reaction.

DR. WELLS: I think the method of injecting these various things in solution with colloid material, with the idea of holding them so that they will act for a long time on the tissue cells, is of doubtful utility.



Soluble things like urea will diffuse as readily as they would out of a simple aqueous solution.

DR. CLOWES: I should like to ask Dr. Calkins whether the maximum stimulating points of each of these bodies that contained purin were comparable to the relative concentration of the purin molecule.

DR. LAMBERT: With regard to the formation of giant-cell growths produced *in vitro* through the action of foreign bodies, I have found several things to suggest that the formations were largely mechanical in causation. The form assumed may be largely due to conditions under the cover glass, which may itself represent a foreign body. In some experiments that I made on the implantation of agar, with or without the addition of chemicals, into various parts of the body, I admixed the substances in a solid state in the agar, in order to control the colloid diffusion.

DR. CALKINS: The work on these free living cells was done largely with the idea of a general exploratory experiment. The points that prove interesting will be repeated, and then the experiments will be controlled. With regard to dissolving out the colloids in agar, the reaction takes place over such a long period that there is very little doubt that there is a reaction still continuing.

#### LATENT CARCINOMA FOLLOWING PYLORECTOMY.

DR. E. R. LECOUNT, Chicago: The operation of pylorotomy was performed for carcinoma on a woman, who died six years afterwards, but did not die of cancer. The tumor was an ordinary stenosing carcinoma of the pyloric orifice. The conditions in the stomach and abdomen at the post-mortem seemed to indicate that either the tumor removed at the time of operation was unusually benign; or else, that the tumor, being of the average malignancy, underwent a change subsequently to the operation, and became more benign. The woman died of pancreatic disease. There were no metastases.

#### DISCUSSION.

DR. GAYLORD: Spontaneous recoveries in human beings are very rare, but possibly because they have not been sufficiently looked for. More careful attention to the class of cases that Dr. LeCount has referred to will probably develop more than have been supposed to exist.

#### (a) PURINS AND PURIN METABOLISM OF TUMORS.

#### (b) METABOLISM OF LIPOMAS.

DR. H. GIDEON WELLS, Chicago: (a) The work on the first paper was not undertaken from the standpoint of purin metabolism at all, but to consider the question of whether secondary tumors breed true chemically, as they do histologically; that is, whether a tumor retains the characteristics chemically of the tissue in which it arises, instead of partaking of the chemical characteristics of that tissue in which it is growing. Particular attention was directed to liver tumors. It was found that secondary tumors of this organ contain pretty much the same chemical characteristics as the normal tissues from which they arise.

(b) The problem in the second paper is quite interesting. Most textbooks on pathology contain the statement that a lipoma shows a striking tendency to continue to grow, even with a high degree of emaciation on the part of the host. From what we know about the metabolism of fat, we have difficulty in explaining why this should be so, if it really is. I have been able to find no particular difference between a lipoma and any other fatty tissue, either by chemical methods or as to the enzymes.

#### DISCUSSION.

DR. CLOWES: We made some experiments on hypernephromata, and concluded that we had a body exerting a positive effect upon the blood pressure. That would appear to indicate that tumors breed true chemically. The cancer cases exhibit, generally speaking, differences in the lipolytic activity as compared with the normal.

DR. MALLORY: I have recently had a primary tumor of the liver in which the structure was exactly like the liver cells. Mitotic figures were numerous; and there were bile capillaries, and bile produced in the cells in places. I remember finding at autopsy a retroperitoneal tumor weighing sixty pounds, while the body did not weigh half so much.

DR. PEYTON ROUS, New York: I have a very large chicken tumor that occurred in an emaciated chicken.

DR. WELLS: We have done quite a little work in trying to find a blood-pressure-raising substance in the hypernephroma, but without result. There have been a number of cases in which secondary carcinomas arising from liver carcinoma have produced bile in the lungs, etc., and many evidences that the tissues preserve the properties that they had; but there has been no evidence, so far as I know, that they acquire properties from the tissues in which they are transplanted.

#### THE INFLUENCE OF A FILTERABLE AGENT ON THE BEHAVIOR OF A CHICKEN SARCOMA.

DR. PEYTON ROUS, DR. JAMES B. MURPHY, and DR. W. H. TYTLER, New York: The agent is very easily separated from the tumor material by means of the Birch-Hirschfeld filter, but not with the Chamberlain filter. It will survive for seven months. The experiments seemed to indicate that the tumor tissue might be destroyed between 47 and 50° C., and that the agent survived between 50° and 53°. It might be, however, that certain cells would survive the heating and not grow *in vitro*, but might convalesce when reintroduced into the organism. The agent is apparently a living organism, because of its resistance to disinfectants. There is undoubtedly some effect of the agent on the rapidity of growth of the tumor. We have been unable to find that the agent had any effect on the growth itself. It seems to me that we have a true instance of a chicken tumor propagated by an external agent, presumably living. Whether this will be true of rat and mouse tumors is doubtful; because in the chicken the agent can be more easily separated, whereas in the rat and mouse this cannot be done.

#### DISCUSSION.

DR. GAYLORD: We have failed to filter rat sarcoma, and I do not think that you can handle it through a filter. We have had one or two instances in which we got sarcomas entirely out of proportion to the percentage of cells in the supernatant fluid, and this suggested to us the possibility that we had in the rat sarcoma an agent separable from the cells, but not separable through a filter.

DR. LAMBERT: I should like to ask Dr. Rous whether he made experiments by combining his filtrate with tissue cultures; to determine, if possible, whether the agent there might affect the growth in such a way that the cells were preserved.

DR. CLOWES: In our experience, we found that if large blocks of the material of rat sarcoma were heated to 53°, a large proportion of the cells would survive, and would break down gradually. We never got a tumor to grow from material heated to 60° for over half an hour.

DR. LOEB: In my first experiments with sarcoma,

I never got a growth if I excluded the cells by filtration.

DR. ROUS: The conditions in the rat are so different from those in the chicken that I think the two are not comparable. We are attempting some immunity experiments with rats, and hope soon to prepare a serum that will nullify tumors in these animals.

#### HEREDITY OF THE SUSCEPTIBILITY TO INOCULATION WITH CANCER.

DR. LEO LOEB and DR. MOYER S. FLEISHER, St. Louis: Tyzzer found that by crossing Japanese waltzing mice and American mice, and inoculating the hybrids with a tumor found in a Japanese mouse, the hybrids (F1) behaved like Japanese mice; while F2 and F3 behaved like American mice. We crossed American mice with two strains of European mice, and used a tumor of an American mouse for inoculation; and we obtained a similar result to that of Tyzzer. The results obtained by him and ourselves are, therefore, not dependent upon the peculiarity of an especial strain of mice and of the special kind of tumor used; but evidently depend upon the factors that determine the fitness of a certain soil for tumor growth, and are, therefore, of general significance.

#### DISCUSSION.

DR. E. E. TYZZER, Boston: I have thought for some time that certain factors that are antagonistic to the growth, when in excess may aid the growth or accelerate it, when in slighter amount.

#### THE REACTION OF THE TISSUES OF IMMUNE MICE TO IMPLANTED TUMOR. WITH LANTERN DEMONSTRATION.

DR. E. E. TYZZER, Boston: I wished to determine whether the reaction that was present in the tissues of common susceptible and non-susceptible mice would be present in mice that had been immunized by a previous implantation of tumor. The results, while not so remarkable as those found in non-susceptible mice, were still positive. I would suggest that what has been termed natural immunity in mice is, strictly speaking, an acquired immunity. The mechanism seems to be the same in both the non-susceptible and the susceptible animals. These observations indicate that tumor immunity may be brought about by a substance in the immune animal, in the vicinity of the living tumor tissue.

#### DISCUSSION.

DR. GAYLORD: Baeslock has stated that animals recovering spontaneously from implanted tumors have been known to develop spontaneous cancer.

DR. ROUS: The immunity that we produced was transient. After thirty or forty days, a tumor would develop on reinoculation. Tumor immunity seems to be similar to tissue immunity.

DR. LOEB: You find a specific reaction, if you transplant simple skin, the lymphocytes immediately invading the tissue.

#### CANCER IN PLANTS. WITH LANTERN DEMONSTRATION.

DR. ERWIN F. SMITH, Washington, D. C.: I will show you secondary tumors developing on the leaves of plants after the inoculation of the stem with tumor material. The secondary tumors lose the unilateral structure of the leaf, and take on the bilateral structure of the stem. The inoculations were made by means of needle pricks, but without hypodermic injection. I will run through cross sections of four or five of these different plants, to show you the tumor strand; and will afterwards show you longitudinal sections of the same strand in a leaf. You cannot see any bacteria

between the cells or in the vessels. When we break sections of young tumors and let them diffuse out in sterile water, we can get bacteria on the slide in small numbers; therefore, it is probable that the micro-organisms are within the cells. We have been staining for a year, in order to find them inside the cells, but without result. Later, by means of gold chloride, we hope to succeed in staining the bodies in the cells without staining the protoplasm.

#### DISCUSSION.

DR. JOBLING: I should like to ask Dr. Smith whether he thinks that a toxin stimulates the cells, or whether the organisms really are conveyed along these direct channels. Have the organisms been demonstrated in the metastases, or only in the original growth? I should also like to know whether the tumor producing a toxin is capable of doing so after transplanting, and whether it does so.

DR. SMITH: We have obtained the same organisms from the tumor strands in the original growth and the metastases. We might, however, have the cells affected without there being bacteria in them. In attempting to find a toxin in transplanted tumors, we got such slight results that it is doubtful whether they were to be depended upon.

#### FURTHER EXPERIMENTS WITH THYROID TUMOR IN SALMONIDS.

DR. HARVEY H. GAYLORD, Buffalo: Iodine introduced in measurable quantity into the water in which fish with visible tumor were causes a diminution in the size of the tumors, with regression. Bichloride of mercury will also cause such regression in brook trout somewhat better, and in less time, than will iodine. Arsenic has the same effect. These chemicals also have a definite effect on the hyperplastic thyroid of the salmonidæ. Fish fed on an uncooked animal protein diet developed hyperplasia of the thyroid, whereas those fed on other food did not. Another line of observation showed that water may be a determining factor; but it requires both factors, a protein diet and water in which the disease may develop, in order to produce the thyroid hyperplasia.

#### HEMANGIO-ENDOTHELIOMA GIVING THE BIOLOGICAL APPEARANCES OF "GIANT-CELL XANTHOMA." WITH LANTERN DEMONSTRATION.

DR. S. B. WOLBACH, Boston: I received two very unusual tumors, which had come from adults living in Montana and Albany, N. Y., respectively. The first was so peculiar that I could arrive at no conclusion as to its diagnosis until I got the second, which I could recognize as an hemangio-endothelioma. I afterwards found the same appearances in several of a series of tumors that Dr. Mallory gave me to look over. I think that in many of the published descriptions of tuberculous xanthoma the probable explanation is that they are the same type of tumor as the cases of which I am speaking. In these tumors, the capillaries become occluded, and the endothelial cells increase in size. The yellow pigment contained in them is iron pigment. They also contain fat, which is probably nutritional fat. It does not come from invading fatty tissue.

At the business session, a Constitution and By-laws were adopted, and the following officers were elected for the ensuing year: President, Dr. E. E. Tyzzer, Boston; Vice-President, Dr. Leo Loeb, St. Louis; Secretary and Treasurer, Dr. S. B. Wolbach, Boston.

### Book Reviews.

*A Treatise on Tumors.* By ARTHUR E. HERTZLER, M.D., Ph.D. Illustrated with 538 engravings and eight plates. Philadelphia and New York: Lea & Febiger. 1912.

The aim of this book is to afford students and practitioners a guide to the proper recognition of tumors. Its method is both clinical and pathologic; but on account of its essentially practical nature, the subject of experimental oncology has been entirely omitted. Part I is devoted to the conceptions and definitions of the general biology of tumors. In Part II is considered the special pathology of the various types of neoplasm. Part III presents a regional clinical consideration of tumors. A purist might criticize the pluralization of all tumor names in "s" instead of the more correct "ta"; but could otherwise find little but praise for the style of this scholarly work. There is no detracting from its textual merit in the comment that it is admirably supplemented by the copious and excellent illustrations. The volume should be of great value as a clinical guide and work of reference.

*Gastroscopy.* By WILLIAM HILL, B.Sc., M.D. Lond. With forty-seven illustrations. London: John Bale, Sons & Danielsson. 1912.

This monograph, which is the expansion of a paper given by the author before the British Medical Association at Birmingham in July, 1911, traces the evolution of modern methods of gastroscopy, indicating their technic and shortcomings, and presents the details of a "new, easy and efficient method of esophago-gastroscopy, combining direct and indirect vision, with a plea for its employment by gastric experts." Dr. Hill's experience with endoscopy entitles him to speak with authority. His modification of the Hill-Herschell apparatus "consists essentially of a Killian's direct-vision esophago-gastroscope, modified for inflation, with a straight, indirect periscopic tube of the Heynemann pattern." The construction and use of this and of other gastroscopes is abundantly illustrated by diagrams. At the end of the book is an alphabetic list of references selected from the very extensive literature of esophagoscopy. The author rightly emphasizes the importance of this procedure, and predicts its more extensive future employment in the diagnosis of gastric disease.

*Exercise and Health.* By DR. WOODS HUTCHINSON. New York: Outing Publishing Company. 1911.

*We and Our Children.* By WOODS HUTCHINSON, A.M., M.D. Garden City: Doubleday, Page & Co.

The advent of two new volumes by Dr. Hutchinson is a treat to those who enjoy the distinct originality of his style of composition. He is preëminently the Gilbert Chesterton of medicine, a disciple of the English philosopher of paradox. Indeed, it seems that with the years his literary

manner becomes more extravagant, more suggestive of mannerism. His facility of expression is so great that it sometimes leads him into questionable picturesqueness of phrase or even carelessness as to accuracy of statement. Both the books under consideration are open to these criticisms, though of course it should be remembered that they are written for the general public and are not serious scientific works.

*Exercise and Health* is a collection of six essays, previously published discretely in *Outing*, on various aspects of athletics and of physical exercise. In the main, these chapters contain much common sense and praiseworthy contempt of traditional fallacy, mixed, however, with some impracticable theory and much hyperbole of assertion. One might wincingly pass in silence the taste of the title "Muscle Maketh Man" as an ill-judged tampering with the connotation of the noble phrase which it parodies. One cannot, however, help querying how the world's work would ever get done, if everybody arranged his day on the careful hygienic basis advocated by Dr. Hutchinson. It was the late Speaker Reed who said he believed so heartily in the eight-hour day's work that he took it twice every day himself. It is such men who have made and will continue to make history, not the devotees and paragons of hygienic ritual.

In *We and Our Children*, Dr. Hutchinson again attempts the world-old duty of telling others how they should raise their children, and gives a great deal of sensible advice to actual and potential parents. He falls under the spell of eugenics, too, and in "The Worship of the Race Stream," "Reluctant Parentage" and "The American Mother," touches some of the important and much-mooted sociologic problems of the day. In these, as in all that he writes, his saving grace is that he does not take himself too seriously.

*Infections of the Hand.* A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By ALLEN B. KANAVEL, M.D. Illustrated with 133 engravings. Philadelphia and New York: Lea & Febiger. 1912.

This monograph, which is the expansion of a series of articles published by the author in *Surgery, Gynecology and Obstetrics*, presents a worthy clinical study of infections of the upper extremity, based on original experimental and anatomic investigations. Dr. Kanavel's method of determining the natural path of infection by injections along the tendons and their sheaths is unique. After an historic introduction, the book is divided into two parts, the first dealing with "simple localized infections and allied minor clinical entities," the second with the "grave infections, teno-synovitis, fascial space abscesses, lymphangitis, and allied conditions." The surgical importance of manual infection is so great that this scholarly and practical volume should immediately assume the position of importance which it deserves among special works on surgery.

## THE BOSTON Medical and Surgical Journal.

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### RETIREMENT OF DR. DURGIN.

It is announced that after an unbroken service of forty years as chairman of the Boston Board of Health, Dr. Samuel Holmes Durgin is soon to retire from his official position. This period of service is for several reasons remarkable. Not only does it represent a notable record of individual duty faithfully and effectively performed, but it has practically coincided with the entire development of the modern sciences of public hygiene, municipal sanitation and preventive medicine.

The duration of Dr. Durgin's service to this community, however, is even longer than his chairmanship of the Board of Health. It was in 1867, three years after his graduation from the Harvard Medical School, that he was appointed port physician and resident physician at Deer Island. In this position he first gave evidence of his administrative and constructive ability, and laid the foundations upon which has been developed the admirable system of medical inspection and quarantine that now prevails in the port of Boston.

In January, 1873, at a time when smallpox was extensively epidemic in this city, the Boston Board of Health was established. On account of his already demonstrated efficiency as a physician, a sanitarian and a public servant, Dr. Durgin was appointed first chairman of the new board, and has held that post with distinction continuously to the present day.

When he began his service, the knowledge of the bacterial etiology of disease was of recent discovery, the science of bacteriology was in its infancy and its practical application to the problems of surgery and of public health was yet to

be developed. Throughout his career, Dr. Durgin has been always governed by a wise progressiveness tempered with moderate conservatism. He has been ever prompt to adopt new measures of proved value, ready to apply experiment in the test of theory, but with excellent judgment in the avoidance of inexpedient innovation.

Cleanliness and vigilance have been the consistent watchwords of his administration, and upon these, after all, hang the success of public hygiene and sanitation. To their persistent observation and enforcement has been due in no small measure the harmonious and steady advance of our city.

The credit for this achievement belongs of course to no one man. There have been many worthy laborers in the field. For his share, however, Dr. Durgin deserves full measure of praise. He has stood always for rational progress, for what he knew to be right, and has maintained the ideals of the medical profession, sometimes in the face of opposition and under stress of political pressure. In his dealings with the public he has been honest, temperate, never an alarmist, always sane and reliable. He has shown at once the qualities of judicious leadership and of unswerving fidelity and devotion in service. In his retirement to other and less arduous activity he will be followed by the sincere goodwill and cordial gratitude of our profession, both for the record of accomplishment and for the example of his service to the community.

The selection of a successor to Dr. Durgin is a problem of great difficulty and importance. One competent to fill this office should be a man of large experience, technical ability, and rare personal qualifications of character. Such a laborer is worthy of his hire. For such a man, proper conditions and proper provision must be afforded; that, when found, he may be persuaded to take the office, and glad to keep it. The ideal arrangement would doubtless be a department with a single commissioner at its head, power and responsibility going hand in hand in equal measure.

### THE HARVARD MEDICAL ALUMNI ASSOCIATION.

THE triennial dinner of the Harvard Medical Alumni Association is to be held on Wednesday evening of next week, May 22, at the Hotel Somerset, Boston. Invitations have been sent to every alumnus, whether or not a member of the association, and to the members of the present graduating class of the school. It is expected

that from three hundred to five hundred persons will be present. The occasion should be marked by a cordial demonstration of loyalty to the school on the part of its graduates, and of interest in its welfare and progress.

In a sense, the Harvard Medical School, and the growing community of medical institutions of which it is the center, may be said to be in a transitional stage, or rather in a stage of steady advance towards a definite goal. Yet enough of progress has already been accomplished, since the latest previous triennial meeting of the alumni, to afford material for observation and earnest of future achievement. It is purposed, therefore, to make the coming meeting an opportunity for the alumni to inspect the school, its work and its adjacent institutions, and to learn more of its immediate prospects and policies.

To this end there has been arranged an afternoon meeting in Building D of the Harvard Medical School. At this meeting, the program for which was printed in last week's issue of the *JOURNAL*, there will be a series of eight fifteen-minute talks and demonstrations on selected topics connected with the work of the school, its departments and affiliated hospitals, actual and prospective, after which the alumni are invited to visit any of these departments or hospitals that may be of particular interest to them.

At the dinner in the evening, the exercises will be devoted rather to an outlining of future plans and policies. There will be addresses by President Lowell; by Dr. Henry S. Favill, of Chicago; by Dr. Edward H. Bradford, the new dean of the Medical School; by Dr. Horace D. Arnold, the new dean of the Harvard Graduate School of Medicine; and by Dr. J. Collins Warren, president of the Alumni Association. An address is expected also from Dr. Harvey Cushing, who next fall is to assume charge of the surgical service of the Peter Bent Brigham Hospital, now under construction. At the triennial dinner of 1909, one of the principal speakers was Dr. Henry A. Christian, who had then just begun his administration as dean of the school. Dr. Christian unfortunately cannot be present this year, owing to his absence in Europe. There will be none the less appreciation, however, of his work, in the interest afforded by the present unusual opportunity to hear the statement of aims and policy of the two new deans of the undergraduate and of the graduate school.

The coming occasion should be one of particular importance to the Harvard Medical School and of interest to its alumni. It will afford opportunity

for all to get in fresh and closer contact with the school, and should stimulate many, not now members of the Alumni Association, to join that organization. No great educational institution can reach its highest accomplishment without the cordial and enthusiastic loyalty and support of all its graduates, who should be more than passive recipients of its benefits. By coming to the demonstrations and to the dinner every alumnus of the Harvard Medical School will take an occasion not only to receive, but to give, encouragement and help in the progress of medical education.

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#### APPOINTMENT OF DR. EDSALL.

THE appointment of Dr. Edsall as Jackson professor of clinical medicine at the Harvard Medical School not only marks the coming to Boston of a physician of charming personality and distinguished professional ability, but also signalizes the further pursuance and extension of the rather recently adopted policy of the school to call to its chairs men of eminence from other cities. This policy was first applied to the laboratory professorships. Now it is the purpose of the school to obtain for its clinical chairs men who will give a large part of their time to teaching and investigation.

For the pursuance of medical research, Dr. Edsall is abundantly qualified. After obtaining his doctorate in medicine from the University of Pennsylvania, he spent two years in hospital service at Pittsburg, and two in study at London and Vienna. He also studied abroad again in 1901 and 1911. From 1895 to 1905 he was associate at the William Pepper Laboratory; from 1905 to 1907, associate professor of medicine at the University of Pennsylvania; and since 1907 has held a professorship at Washington University, St. Louis. He has been a prolific writer, contributing to many standard works, such as Osler's "Modern Medicine" and Keen's "System of Surgery." His original work has been largely in physiologic chemistry, though he has published many articles of a purely clinical nature. He has been interested in many of the problems of preventive medicine, and is particularly known for his researches in occupation diseases.

Clinically, Dr. Edsall will have in Boston abundant field for activity. He is to be chief of one of the continuous medical services at the Massachusetts General Hospital, which will give him adequate opportunity both for teaching and for study. His position will afford the scholas-

tic leisure essential for the ripest development of scientific as well as of academic pursuits, and will make possible a devotion of time and energy to his duties as professor which is difficult for one pressed by the busy routine of general practice. In a recent address before the mid-winter meeting of the Aesculapian Club of Boston, on "The Clinician, the Hospital and the Medical School," Dr. Edsall outlined his concept of the proper interrelation and co-ordination of these three important factors in the development of medical science and education. This address, which was published in full in the issue of the JOURNAL for Feb. 29 (Vol. clxvi, p. 315), may be taken as his statement of policy and of faith. It is worthy of the best scientific and humane ideals of medicine. Dr. Edsall comes to his work in this community well-equipped and with ample opportunity for the fulfilment of his promise. He will find a cordial and appreciative welcome from his colleagues in the school, in the hospital and in the profession of Boston.

#### THE ISLES OF GREECE.

A NEW interest has been added to the present rather obscure war between Italy and Turkey by the recent action of the Italians in carrying the war, not into Africa, but to the Ægean Islands. Last week the island of Rhodes, where once stood the famed Colossus, was seized by the Italian forces; and a dispatch from London on May 11 announces that the island of Chios is to be their next objective point.

Chios is of particular strategic importance since it commands the entrance to the harbor of Smyrna. There is, however, a peculiar general interest in these —

"isles of Greece,  
Where burning Sappho loved and sung,"

since nearly every one of them is associated with some historic or literary episode in Greek life. Sappho herself was born and lived in Lesbos, the northernmost of the group of islands known as the Sporades. Here too was the city of Mytilene, once a seat of great commercial and political importance. Next south of Chios lies Samos, the home of Pythagoras, and importantly situated, commanding the harbors of both Ephesus and Miletus, the two largest classic seaport cities of Asia Minor. Patmos, a little to the southwest, was the place of exile of St. John the Apostle.

Cos, about halfway between Samos and Rhodes, is of particular medical interest. It was one of the chief seats of the worship of Asklepios, to

whom the island was sacred. Here was his celebrated temple, the Asklepieion, and here lived his greatest successor and reputed descendant, Hippocrates. Incidentally it is interesting to recall that according to Greek mythology Asklepios was born by a sort of Cæsarean section, having been snatched by his father Apollo from the body of his dead mother, who had been killed by Artemis. Hippocrates was born in Cos in 460 B.C. Over against Cos was Cnidos, a peninsular city of Asia Minor, where stood the celebrated statue of Aphrodite by Praxitiles, and where was also another seat of Asklepiian worship.

Other of the Ægean Islands, especially the group known as the Cyclades, centering about Delos, were more particularly associated with cults of the Greek religion. Delos itself was the birthplace of Apollo and Artemis, and, being sacred to Apollo, was the object of pilgrimages by physicians, and the seat of medical as well as religious rites. Indeed, ancient medicine was so intimately connected with religion that curative virtues were often attributed to these sacred temples, as to many Christian shrines in the Middle Ages. The islands with which many of these legends were associated are now lapsed into bucolic peace and oblivion. It will be a genuine boon if their present temporary occupation by Italian invaders serves to recall their names and stories to the memory of a forgetful world.

#### MEDICAL NOTES.

**AWARD OF HUNTERIAN MEDAL.** — It is announced that Dr. A. Goulston, of Heavitree, Exeter, England, has recently received the third annual award of the medal of the Hunterian Society for his essay on "The Use of Sugar in Heart Disorders."

**ANGLO-AMERICAN ASSOCIATION.** — It is reported in a recent issue of the *British Medical Journal* that the Anglo-American Medical Association of Berlin has recently established itself in new and well-located quarters in that city. This organization exists for the social and educational interests of English-speaking physicians studying or resident in Berlin.

**UNIVERSITY OF ATHENS.** — The seventy-fifth anniversary of the foundation of the University of Athens was celebrated in that city on April 10, with appropriate ceremony. Among those on whom was conferred the honorary degree of



M.D., may be mentioned professors Von Behring, of Marburg; Ehrlich, of Frankfort; Exner and Weichselbaum, of Vienna; Golgi, of Pavia; Landouzy, Richet and Roux, of Paris; and Sir Ronald Ross, of Liverpool.

**EARLY CASES OF POLIOMYELITIS.**—Recent reports of the United States Public Health and Marine-Hospital Service state that during the week ended April 13, two cases of poliomyelitis were reported from Boston, and 9 cases and 1 death from New York City. During the week ended April 20, 1 case of the disease was reported from Newark, N. J., 1 from Philadelphia and 4 from New York.

**SANITARY LEAGUE AT NORFOLK.**—In the weekly report of the United States Public Health and Marine-Hospital Service for May 3, Dr. C. P. Wertenbaker describes the recent "Organization of a Sanitary League at Norfolk, Va." This league was formed by citizens "with the object of improving the sanitary conditions of the city and suburbs." It appears to have a peculiarly effective constitution, and should prove a strong force for hygiene in its own community and an example to others.

**TRAUMA AND MORTALITY OF TRANSPORTATION.**—Report from Washington, D. C., on May 9, states that statistics recently published by the Interstate Commerce Commission show that during the quarter ended Dec. 31, 1911, 42 persons were killed and 4,706 injured in railroad accidents in the United States, as compared with 48 killed and 3,729 injured during the corresponding quarter of 1910. This trauma and mortality from transportation is analogous to and should be reckoned with the disability and deaths due to preventable disease.

**CODIFICATION OF PUBLIC HYGIENE ORDINANCES.**—A recently published reprint (No. 70) of the United States Public Health and Marine-Hospital Service presents a valuable codification of the "Municipal Ordinances, Rules, and Regulations Pertaining to Public Hygiene, Adopted from Jan. 1, 1910, to June 30, 1911, by Cities of the United States having in 1910 a Population of over 25,000." The legislative abstracts and extracts here collected have been published from time to time during the past year in the weekly reports of the Service. The collection should form a useful manual of guidance for local sanitarians of smaller communities throughout the country. The subjects are classified under appropriate topical headings.

**INTERNATIONAL RED CROSS CONFERENCE.**—The ninth International Red Cross Conference, which was opened at Washington, D. C., on May 7, has continued its sessions in that city during the past week, and will close on May 17. President Taft is the honorary chairman of the conference, Mr. Henry White its first, and Mr. Gustav Ador its second, president. Vice-presidents were elected from the principal nations represented. At the opening session, an address of welcome to the foreign delegates was made by Senor Da Gama, Brazilian ambassador to the United States.

At the session of May 9 a motion to limit the aid of the Red Cross to nations contributing to its funds was laid on the table. At the same session, there was passed a resolution of thanks to the Empress of Japan for her recent endowment of 100,000 yen "for prizes to encourage Red Cross relief work in times of peace."

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.**—For the week ending at noon, May 7, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 32, scarlatina 29, typhoid fever 2, measles 183, smallpox 1, tuberculosis 77.

The death-rate of the reported deaths for the week ending May 7, 1912, was 14.48.

**BOSTON MORTALITY STATISTICS.**—The total number of deaths reported to the Board of Health for the week ending Saturday noon, May 11, 1912, was 194, against 264 the corresponding week of last year, showing a decrease of 70 deaths, and making the death-rate for the week, 14.05. Of this number 102 were males and 92 were females; 189 were white and 5 colored; 125 were born in the United States, 64 in foreign countries and 5 unknown; 37 were of American parentage, 135 of foreign parentage and 22 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 28 cases and 2 deaths; scarlatina, 38 cases and 0 deaths; typhoid fever, 9 cases and 0 deaths; measles, 167 cases and 0 deaths; tuberculosis, 79 cases and 19 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 34, whooping cough 1, heart disease 30, bronchitis 2. There were 13 deaths from violent causes. The number of children who died under one year was 40; the number under five years, 51. The number of persons who died over sixty years of age was 45. The deaths in hospitals and public institutions were 90.

**MASSACHUSETTS COLLEGE OF PHARMACY.**—The annual Commencement and Class Day exercises of the Massachusetts College of Pharmacy are to be held this year on Thursday of this week, May 16.

**BOSTON CITY HOSPITAL.**—At the recent annual meeting of the trustees of the Boston City Hospital, Mr. A. Shuman was for the twenty-second consecutive time re-elected president of the board, on which he has now served for twenty-seven years.

**DEACONESS HOSPITAL TRAINING SCHOOL.**—At the annual graduation exercises of the New England Deaconess Association, held last week in Brookline, Mass., diplomas were awarded to nine pupil candidates of the Deaconess Hospital Training School for Nurses.

**INCREASED NUMBER OF SCHOOL NURSES.**—At a joint conference held in Boston last week between the local school committee and board of health, the need was discussed of an increase in the number of school nurses, of whom there are at present only thirty-four in this city.

**A CENTENARIAN.**—Mrs. Laura Griggs Moore, who died this week at Brookfield, Mass., is said to have been born on April 13, 1810. Until last fall she was always in excellent health.

**CASE OF LEPROSY IN BOSTON.**—A case of leprosy was reported in Boston last week, in the person of a man of fifty-five, who migrated to this country from Russia in 1892, and has since been a resident of Roxbury. He has now been sent to the leper colony on Penikese Island. This is the first new case of leprosy that has occurred in Boston for a year.

**NEW HAMPSHIRE MEDICAL SOCIETY.**—The one hundred and twenty-first annual meeting of the New Hampshire Medical Society was held on May 8 and 9 at Concord, N. H. At the opening session the president's address was delivered by Dr. George W. McGregor. Among the physicians who, as guests of the society, presented papers or participated in discussion at the several sessions were Dr. Howard Lilienthal, of New York, and Dr. Maurice H. Richardson, Dr. Fred B. Lund and Dr. E. W. Taylor, of Boston.

**WORCESTER CITY HOSPITAL.**—The recently published forty-first annual report of the trustees of the City Hospital of Worcester, Mass., records the work of that institution for the year ending Nov. 30, 1911. During this period 4,380 patients

were admitted to the wards of the hospital; 18,853 treatments were given in its out-patient department; and 718 patients were treated in the accident room. Thirty-one nurses were graduated from the training school. The present urgent needs of the hospital are a new ward for children, additional accommodation for nurses, and larger endowment funds to provide for the running expenses of the institution.

**RE-ABOLITION OF THE DIP-TANK.**—A year ago the Boston Board of Health established a regulation forbidding the use of the dip-tank by milk dealers in this city. Upon the attempted enforcement of this ordinance, test cases in opposition to it were taken before the Supreme Court, which ruled that the Board of Health had transcended its authority in making the regulation. The use of the dip-tank was therefore continued. During the past year, however, the Massachusetts General Court has passed an act giving to local health boards the power "after May 24 to make reasonable regulations for the handling and care of all foodstuffs." Under this act, it is expected that the Boston Board of Health will resume its attempt by ordinance to abolish the use of the dip-tank in this community.

**MILK AND BABY HYGIENE ASSOCIATION.**—The recently published third annual report of the Boston Milk and Baby Hygiene Association records the work of that institution for the past year. During this time 2,827 babies, nearly all under one year of age, were cared for at the association's milk stations.

"Nine milk stations are maintained by the association, most of them in settlement houses in congested parts of the city. Here modified milk is given out by a trained nurse to mothers at cost prices. When not busy at the station the nurse visits the homes in her district, giving the mothers instruction in the care of babies and practical hygiene. During the year 32,156 visits were made by the various nurses. Every effort is made to encourage breast feeding, and the results show that the proportion of breast-fed babies has increased from 20% during the second year of the association's work to 30% for the past year."

The work of the association has produced other tangible results.

"The report of the medical director, Dr. Arthur A. Howard, shows that the death-rate of the year from intestinal diseases, which are due almost wholly to improper feeding, has been materially lowered."

Such results cannot be accomplished without expense.

"The association depends entirely for its support upon annual contributions, as it has no endowment. During the year the expenses were only \$15,424, a decrease of 4% under the cost of the preceding year, but with this diminished expense the number of babies cared for increased from 1,870 to 2,827, or 51%, and the number of visits to the homes increased over 12%. Contributions to the work are received by Arthur H. Brooks, treasurer, 26 Bennet Street."

The fact that good administration has actually made possible a greatly increased amount of work this year, at a reduced cost, should stimulate larger generosity of subscriptions by those interested in this important educational and prophylactic enterprise.

#### NEW YORK.

**A CENTENARIAN.**—Mrs. Winifred Farrell, of East Orange, N. J., who died on May 9, was locally reputed to have been born in December, 1807. She was a woman of large physical stature, and is said never to have been ill until she was one hundred and two years of age.

**PROPHYLAXIS OF ANTE-MORTEM SEPULTURE.**—In the will of William G. Vanderroest, of Mount Vernon, N. Y., who died on April 24, occurs this curious clause: "As I am in mortal fear and dread of being buried alive, I do hereby direct the undertaker to stab me through the heart after being pronounced dead by my physician." Whether this direction was actually carried out has not been made public.

**WILL OF BENJAMIN GUGGENHEIM.**—By the will of Benjamin Guggenheim, of New York, who was lost in the *Titanic* disaster, more than \$100,000 is left to charitable objects. Among these are the following: Mount Sinai Hospital, \$10,000; St. John's Guild Floating Hospital, Montefiore Home and Hospital for Chronic Invalids and the Home for Aged and Infirm Hebrews, to each, \$5,000.

**A NEW VETERINARY HOSPITAL.**—The New York Women's League for Animals, Mrs. James Speyer president, which ever since its organization has had in view the establishment of a commodious and well-equipped hospital for animals, has now in hand sufficient funds for the purpose and has purchased as a site for the institution a plot of land containing 3,150 square feet, with a frontage of 115 feet on Lafayette Street and 25 feet on Bond Street.

**DIVORCE FOR INSANITY AT MARRIAGE.**—For the first time in the records of a New York Su-

preme Court, a marriage annulment was granted on May 9, to a man whose wife was insane at the time of the marriage. As a rule, the guardians of the insane person apply for such an annulment, but in this case, that of Henry Liske, whose wife has for some time been an inmate of the Central Islip State Hospital, Justice Greenbaum decided that, although there was no precedent, there was no provision of the law prohibiting the sane partner in a marriage from acting.

**LIABILITY FOR DAMAGES TO A DEAD CLIENT.**—Supreme Court Justice Cohalan has handed down a decision ruling that an attorney is not liable for damages to his client if the defendant of a suit in which he represents the plaintiff dies after the suit has been begun, but before it has been brought to trial. The client in this case charged that his lawyer was responsible for a long delay in getting it tried, but the court, in dismissing the client's complaint, declared that the reason for his loss was not the delay, but the death of the defendant.

**OTTOMAN RED CRESCENT SOCIETY.**—The Ottoman Red Crescent Society is the organization which corresponds in function in the Ottoman Empire to the Red Cross elsewhere, and on May 8, A.M., Shah Mir Effendi, Turkish Vice Consul at New York, reported that there are at present 2,500 sick and wounded Italian soldiers under the care of the Red Crescent Society in Tripoli, and made an appeal for funds, of which, he stated, the society was greatly in need. A branch of the Red Crescent has been organized in the United States, with the Turkish Ambassador as honorary president, and among its other officers are Oscar Straus, former United States Ambassador to Turkey; Prof. Richard Gotthiel, of Columbia University, and Dr. Henry Moskoviz, of New York.

**REMARKABLE ESCAPE FROM ELECTROCUTION.**—Samuel Ehrhardt, a porter with Buffalo Bill's Wild West Show, made a remarkable escape from death on May 6, when an electric current stated to have been of a strength of no less than 11,000 volts passed through his body. As he was walking on the top of one of the animal cars in the freight yards at Mount Vernon, Westchester County, his head came in contact with the feed wires furnishing the electricity for trains on the New York, New Haven and Hartford Railroad. Fortunately, the policeman who came to his rescue had had instruction in first aid to the injured, and it was stated by the ambulance surgeon

of the Mount Vernon Hospital, who did not arrive on the scene until some time afterward, that the man's life was probably saved by the policeman's prompt action.

**SPEEDING MOTOR CAR FATALITIES.** — The number of deaths and injuries from speeding motor cars in the city has been rapidly increasing. In the year 1910 there were 73, and in 1911, an increase of 71%; while during the first four months of the present year there were 58, a rate 27% higher than that of 1911. The maimed numbered 392 in 1910, 617 in 1911, and 244 up to May 1 in 1912. The aldermen, recognizing that the general automobile regulations now in force are entirely inadequate to prevent loss of life and limb in New York, have appointed a committee to prepare a local law which, it is hoped, will have the effect of materially reducing the present dangers.

**UNIVERSITY HEALTH AND SANITARY OFFICER.** — At its monthly meeting on May 6, the board of trustees of Columbia University created a new position, that of health and sanitary officer of the university, for the more complete care of the health of the students, particularly those in residence at the university dormitories. For this office was named Dr. William H. McCastline, who was graduated from the medical department of the university in 1903 and is at present assistant professor of physical education. The trustees also revived the office of provost, which has been extinct at Columbia since 1816. To this position Prof. William H. Carpenter, now associate dean of the Graduate Faculties, was appointed, and it was announced that he would be associated with the president and the secretary of the university in the consideration and oversight of matters of general university concern and in the preparation of general university business for consideration either by the trustees, the University Council, or the appropriate faculty.

**AN EXAMPLE OF RED CROSS RELIEF.** — The report of the Red Cross Relief Committee in charge of the emergency fund raised for the families of the victims of the great Washington Place shirt-waist factory fire a year ago, which was made public on May 6, shows with what promptness and care its work has been done, under the auspices of the Charity Organization Society. This was accomplished through a system of painstaking inquiry, by the aid of persons acquainted with the standards and customs of the

families affected, and by visiting their homes and taking strict account of the needs in each instance. Within a little over two months two thirds of the cases had been completely relieved, while as regards the other remaining third it was necessary to work out plans for the future and to await information from relatives in Europe. Within a year, however, the last payments were made in every case. The emergency fund amounted in all to \$120,000, the largest of the kind ever raised in proportion to the number of sufferers. Of this, \$81,126 has been distributed, not simply by way of reimbursement, but for the purpose of restoring, as far as possible, the original standard of living of each family which was bereaved of bread-winning members. The expenses incurred in carrying out this admirable plan of relief were \$1,937, and the balance of the amount raised goes to the contingent relief fund of the Red Cross.

**CONFERENCE OF CHARITIES AND CORRECTIONS.** — The third New York City Conference of Charities and Corrections was held on May 7, 8 and 9, and among those taking part were Thomas M. Mulry, commissioner of the State Board of Charities; James H. Foster, inspector of this board; Dr. O. F. Lewis, secretary of the Prison Association of New York, and Dr. E. Stagg Whitin, secretary of the National Prison Labor Committee. In the report of the Committee on Municipal Needs special emphasis was put upon the need for additional hospital facilities, particularly for patients suffering from tuberculosis, and it was recommended that all the public hospitals, at present conducted by three separate bodies, the trustees of Bellevue and Allied Hospitals, the Health Department, and the Department of Public Charities, should be placed under one control. The committee further recommended the removal of factories to the suburbs, for the purpose of relieving the congestion of population in the tenement districts, and the appointment of a permanent body of social workers to suggest to the Board of Estimate and Apportionment measures in accordance with the city's special needs. The inadequacy of hospital facilities was also urged by Robert W. Hebbard, former Commissioner of Charities, who stated that the Poor Law Infirmaries of Metropolitan London, with its population of approximately 7,000,000, contained 17,000 beds, while the public hospitals of New York, which should have relatively a capacity of at least 10,000 beds, contained less than 5,000. Dr. Alfred Meyer, consulting physician to the Bedford country tuberculosis sana-

torium of the Montefiore Home, advised the establishment of rural colonies for tuberculosis patients discharged from institutions with the disease arrested and also additional hospital provision in the city for incurable cases. In a paper by Mrs. William Grant Brown, president of the Federation of Women's Clubs of New York City, it was proposed that the requirements for marriage license should be so amended by the legislature as to prohibit the marriage of those unfit, mentally or physically.

#### TUBERCULOSIS PREVENTORIUM FOR CHILDREN.

— The new buildings of the Tuberculosis Preventorium for Children, at Farmingdale, N. J., were formally opened on April 25, in the presence of some 1,700 persons. A special train brought the visitors from New York, and addresses were made by Governor Wilson, of New Jersey; Bishop McFaul, of Trenton; Mayor Imlay, of Farmingdale; Dr. Abraham Jacobi, of New York; George McAneny, president of the Borough of Manhattan; and Marcus M. Marks, president of the preventorium. All the speakers emphasized the fact that the success already achieved by the institution showed that the movement it represented constituted an essential element in the national warfare against the spread of tuberculosis, and that similar preventoria should be established for the tenement children of other cities. In the course of his remarks Mr. Marks said: "Our plan, in short, is to take children from homes in which they are exposed to tuberculosis infection, to keep them out in the open air day and night, winter and summer, keep them up to school grade in open-air classes, and, after a few months, return them, hearty and strong, to homes that have been built up and rendered safe in their absence. These homes have been rendered safe by removing, when feasible, the tuberculous member of the family to the proper institution, and by instructing the family in disinfection, cleaning walls and floors and keeping windows wide open. Then, after discharge, children are followed up for years, so as to make permanent, as far as possible, the good results obtained at the preventorium. Our buildings here, old and new, completely furnished, cost \$150,000, and have a total capacity of 172 children at a time, or about 600 each year, as they remain for from three to four months. Having equipped the administration buildings with the purpose in view of adding two more camps, an additional investment of \$25,000 would increase our capacity by 64 children. We have had 383 at the preventorium in

its experimental period, and all have been materially improved. Not one of them has been confined to bed on account of illness a single day."

RECENT CHARITABLE BEQUESTS. — By the will of Henry C. Hulbert, a wealthy paper manufacturer of Brooklyn, \$75,000 is left to charitable and benevolent objects. Among the bequests are \$10,000 to the Brooklyn Society for the Prevention of Cruelty to Children and \$5,000 to St. Christopher's Hospital for Babies.

### Current Literature.

#### MEDICAL RECORD.

MAY 4, 1912.

1. SORESI, A. L. *Clinical Indications for Direct Transfusion of Blood, with the Author's Technic.*
2. SCHMITT, A. E. *Some Suggestions on the Treatment of Intranasal Conditions.*
3. COBURN, R. C. *A Scientific System of Administering Ether.*
4. PEDERSEN, V. C. *Death from Renal Adenosarcoma. Being the Final Notes of a Case Reported in the "Medical Record," Aug. 28, 1911.*
5. SHEFFIELD, H. B. *Pediatric Memoranda. Tetanism.*
6. ALBEE, F. H. *Juxta-Epiphyseal Fracture of the Upper End of the Humerus. A New Postural Treatment.*

#### NEW YORK MEDICAL JOURNAL.

MAY 4, 1912.

1. GIBNEY, V. P. *Reminiscences of the Orthopedic Surgeons of the Latter Half of the Nineteenth Century.*
2. HEIDINGSFELD, M. L. *Salvarsan and the Wassermann Test in Syphilis.*
3. MANGES, M. *The Diagnosis of the Prolonged Fevers.*
4. WILE, I. S. *The Relation of the Physician to the Public.*
5. STARK, N. N. *The Treatment of Tuberculosis in New York City.*
6. CYRIAX, R. J. *Deep Petrissage of the Abdomen as an Aid to the Diagnosis of Tapeworm.*
7. MARKLEY, P. H. *Intestinal Obstruction, Treated with Phenolphthalein and Calomel.*
8. KNOTT, V. B. *A Suggestion in the Treatment of Acute Intestinal Obstruction, with Impairment of Intestinal Vitality.*
9. WETMORE, W. O. *Bacterial Therapy.*

6. Cyriax advocates deep petrissage of the abdomen as an aid to the diagnosis of tapeworm. This consists in a series of circular movements executed in the direction of the large intestine with sufficient energy to cause a thorough kneading of the abdominal contents. The abdominal parietes and the fingers of the operator move as one over the underlying viscera. Properly performed, it effects the dislodging of the proglottides by promoting peristalsis and by mechanically separating segments of the distal end of the parasite by tearing through their attachments. Abdominal petrissage reveals worms in some cases in which purgatives alone have not been successful. As a rule, three or four applications of fifteen minutes each are sufficient to establish a definite diagnosis. [L. D. C.]

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

MAY 4, 1912.

1. HARRIS, M. L. *Treatment of Fractures.*
2. \*RUSSELL, F. F. *Results of Antityphoid Vaccination in the Army in 1911, and its Suitability for Use in Civil Communities.*
3. SAWYER, W. A. *A Typhoid Carrier on Shipboard.*
4. BIGELOW, E. B. *The Value of the Widal Reaction in the Detection of Typhoid Carriers.*
5. \*BELL, F. MCK. *Experiments with Bismuth Pastes.*
6. NILES, G. M. *Pellagra-phobia: A Word of Caution.*
7. PRINCE, E. M. *Gas-Oxygen Anesthesia: Observation in Two Thousand Cases.*

8. BASSLER, A. *About Ourselves.*
9. \*MURPHY, J. B. *Contribution to the Surgery of Bones, Joints and Tendons.* (To be continued.)
10. \*TRONT, H. H. *Proctoclysis. Some Clinical and Experimental Observations.*
11. FARRAGE, J. *Case of Septicemia with Origin before Onset of Labor.*
12. BENSON, R. M., AND AUSTIN, C. S. *Technic in Grafting Cornea of a Rabbit's Eye for Destructive Ulceration of the Cornea.*
13. SAWER, W. E. *Tonsil Guillotine with a Dull Blade.*
14. VERHOEFF, F. H. *An Improved Carbol-fuchsin.*

2. Russell states that antityphoid vaccination in healthy persons is a harmless procedure and confers almost absolute immunity against infection. It is the principal cause of the immunity of our troops against typhoid in the recent Texas maneuver. The duration of the immunity is not yet determined, but is certainly as long as two and one-half years and probably longer. Only in exceptional cases does it cause any degree of discomfort. It apparently protects against the chronic bacillus carrier and is at present the only known means by which a person can be protected against typhoid under all conditions. The general vaccination of an entire community is feasible and could be done without interfering with general sanitary improvements and should be urged wherever the typhoid rate is high.

5. Bell concludes that Beck's bismuth paste as a drainage for acute suppurating sinuses is painless and efficacious, but does not increase the rapidity of cure. When a sinus shows sluggishness, if 5% iodoform be added to the paste it is much more stimulating to granulations. As a packing and drainage for localized intra-abdominal and pelvic sinuses bismuth paste is safe, painless, rapidly curative, prevents the formation of pockets of pus, lowers temperature and to a limited extent prevents post-operative adhesions. It may be used as a diagnostic aid in fecal fistulas. Bismuth "stones" may form in a closed sinus.

9. Murphy believes that ankylosis following drainage in joint infections is very extensive, being present in 96% of cases. Drainage therefore, should never be used. Aspiration, or opening, evacuation and closure without drainage, is better surgery. Treatment of acute arthritis in the large joints, of metastatic origin, should always be surgical, and consists in relief of joint tension (aspiration), relief of intra-articular pressure (Buck's extension) and neutralization of the infection in the joint by use of injections such as liquor formaldehyde and glycerin and the administration of vaccines. By this method of procedure many cases of ankylosis can be prevented.

10. Tront points out that all patients show less rectal irritation to proctoclysis if given a soap-suds enema before operation. Patients given ordinary tap water by rectum absorbed nearly 400 ccm. more to the twenty-four hours than did patients given salt solution. Patients given salt solution by rectum required nearly twice as much water by mouth to relieve thirst. The amount of urine was practically the same in both series of cases tried.

[E. H. R.]

#### THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

APRIL, 1912.

1. \*MAYO, W. J. *Jejunostomy.*
2. \*DEAVER, J. B., AND PFEIFFER, D. B. *Pancreatic Lymphangitis.*
3. \*VERBRYCKE, J. R. *Chronic Cholecystitis.*
4. \*LANDIS, H. R. M., AND FETTEROLF, G. *The Value of Frozen Sections in the Teaching of Physical Diagnostics.*
5. \*LAPHAM, M. E. *The Treatment of Pulmonary Tuberculosis by Compression of the Lung.*
6. McWILLIAMS, C. A., AND HANES, F. M. *Leukemic Tumors of the Breast Mistaken for Lymphosarcoma.*
7. \*STAHL, F. B. *Osteitis Deformans, Paget's Disease, with Report of Two Cases and Autopsy in One.*
8. BARTHOLOW, P. *Note on the Value of Nitric Acid in Cauterizing Wounds Made by Rabid Animals.*
9. \*STONE, W. J. *The Medical Aspect of Chronic Typhoid Infection (Typhoid Bacillus Carriers).*
10. \*STEIN, R. *Epidemic Poliomyelitis: A Clinical Study of the Acute Stage.*

11. \*CLARK, L. P. *A Clinical Contribution to Our Knowledge of Poliomyelitis with Cortical Involvement.*
12. NEWTON, E. A. *The Value of Nauheim Baths in Nephritis with High Blood Pressure.*

1. Mayo's article is a concise, clearly illustrated description of the technic of jejunostomy, an operation which he has found often preferable to gastrostomy in cases of esophageal or cardiac obstruction.

2. Deaver and Pfeiffer argue in support of the hypothesis advanced by Bartel that pancreatitis, both acute and chronic, is in pathology a lymphangitis, and not a disease resulting from infection of the pancreatic ducts.

3. Verbrycke writes to emphasize his belief that in certain dyspeptics the symptoms are due to gall-bladder disease, with or without the presence of gallstones. In a certain proportion of these an apparent cure is effected under medical treatment. This consists of diet restricted in amount, avoidance of irritant foods, preponderance of cereals and vegetables with minimum amounts of fat and relatively low protein; Carlsbad water in the morning; two or three tablespoonfuls of albolene at night; hexamethylenamin 30 gr. per twenty-four hours; and bile salts 5 gr. three times a day.

4. Landis and Fetterolf describe the use of frozen sections for demonstration in connection with patients showing physical signs of similar conditions to those found in the subjects from which the sections have been made. They deal especially with sections of the thorax in pulmonary tuberculosis.

5. Lapham describes the treatment of pulmonary tuberculosis by the introduction of nitrogen into the pleural cavity with the effect of compressing the lung. The historical development of the method and the technic are described, and cases are reported.

7. Stahl's article on osteitis deformans is a careful report of cases but does not add materially to our knowledge of that obscure condition.

9. Stone summarizes the literature of the subject of typhoid carriers and reports an original case. The article is of value in calling attention to the frequent occurrence of the persistent presence of typhoid bacilli, particularly in the stools of persons who have had typhoid and also in those in whom no history of clinical typhoid is obtained, and in outlining the precautions which should be observed to protect the community against infection by carriers. Stress is laid on the importance of immunization of nurses and physicians exposed to typhoid infection, and on the possible value of vaccine treatment where the bacilli are persistent only in the intestinal and urinary tracts, but where the gall bladder is not involved. In chronic cholecystitis drainage of the gall bladder is indicated. Chronic carriers should be under the control of the local board of health and should be prevented from engaging in the handling of food products.

10 and 11. The articles of Stein and of Clark are devoted to description of atypical forms of poliomyelitis and the resulting difficulties of diagnosis presented.

[F. W. P.]

#### JOURNAL OF EXPERIMENTAL MEDICINE.

MARCH, 1912.

1. HALSTEAD, W. S. *Report of a Dog Maintained in Good Health by a Parathyroid Autograft Approximately One Fourth of a Millimeter in Diameter. And Comments on the Development of the Operation for Graves' Disease as Influenced by the Results of Experiments on Animals.*
2. HALSTEAD, W. S. *A Bulkhead Suture of the Intestine.*
3. CECIL, R. S., AND BULKLEY, K. *On the Lesions Produced in the Appendix by Oxyuris Vermicularis and Trichocephalus Trichiurus.*
4. \*WHIPPLE, G. H. *Pregnancy and Chloroform Anesthesia. A Study of the Maternal, Placental and Fetal Tissues.*
5. WHIPPLE, G. H. *Insusceptibility of Pups to Chloroform Poisoning during the First Three Weeks of Life.*
6. ROUS, P., AND MURPHY, J. B. *The Histological Signs of Resistance to a Transmissible Sarcoma of the Fowl.*
7. CARREL, A., AND INGEBRIGTSEN, R. *The Production of Antibodies by Tissues Living Outside of the Organism.*
8. DUVAL, C. W., AND COURET, M. *A Further Note upon*



*the Experimental Production of Leprosy in the Monkey (Macacus Rhesus), with a Critical Study of the Culture Employed.*

4. Whipple discusses the use of chloroform as an anesthetic in pregnancy. Experimentally he finds that normal and pregnant dogs are equally susceptible to late chloroform poisoning and may be fatally poisoned by an anesthesia of two hours' duration. These experiments raise objections to the use of chloroform in normal as well as pregnant human beings when the anesthesia must be continued for half an hour or longer. [R. I. L.]

APRIL, 1912.

1. \*GRAHAM, E. A. *The Pathogenesis of the Hemorrhagic Diseases of the Newborn.*
2. \*BAHR, G. *Glomerular Lesions of Subacute Bacterial Endocarditis.*
3. KRAMER, S. P. *On the Function of the Circle of Willis.*
4. DARLING, S. T. *Experimental Infection of the Mule with Trypanosoma Hippicum by Means of Musca Domestica.*
5. DARLING, S. T. *The Infection of Mules by Trypanosoma Hippicum through Mucous Membranes.*
6. ERLANGER, J., AND FESTERLING, E. C. *Respiratory Waves of Blood Pressure, with an Investigation of a Method for Making Continuous Blood Pressure Records in Man.*
7. CARREL, A. *Ultimate Results of Aortic Transplantations.*
8. CARREL, A. *Technic for Cultivating a Large Quantity of Tissue.*
9. INGEBRIGTSEN, R. *The Influence of Heat on Different Sera as Culture Media for Growing Tissues.*
10. BARBOUR, H. G. *The Constricting Influence of Adrenalin upon the Human Coronary Arteries.*
11. BARTLETT, W. *An Experimental Study of the Arteries in Shock.*

1. Graham discusses those conditions of the newborn characterized by a hemorrhagic tendency, icterus and fatty changes. Experimentally in dogs and guinea pigs he was able to produce all these conditions by the use of chloroform and also by the direct asphyxiation of the fetus. He suggests that these conditions are all syndromes which may occur as the result of a number of toxic agents. He believes that underlying all these symptoms and pathologic complexes there is a deficiency of oxidation, general, local or selective, thus bringing this group of diseases into the general category of acute yellow atrophy of the liver, eclampsia, pernicious vomiting, cyclic vomiting, phosphorus poisoning, etc. The writer believes that in human beings chloroform and asphyxia must in many instances be the determining causes. He regrets that it has been impossible to formulate from the literature any extensive series of statistics showing the frequency with which any one of these various syndromes has followed either the use of chloroform or a condition of extreme asphyxia at labor.

2. Baehr finds in most cases of chronic or subacute bacterial endocarditis, due to the endocarditis coccus (streptococcus viridans or the modified pneumococcus of Rosenow) a distinctive pathologic lesion in the kidney. This lesion does not occur in cases of acute endocarditis and has not been found by the writer in cases of subacute bacterial endocarditis due to other organisms than the endocarditis coccus. The lesion is due to bacterial emboli in the glomeruli of the kidney. The salient features of the pathologic picture are, first, the involvement of one or more loops of a variable number of glomeruli; second, the absence of any visible disease in the uninvolved glomeruli and in the uninvolved portions of the affected glomeruli; and third, the association of all the various stages of the glomerular process often seen in a single microscopic section. During the active bacterial stage of the disease the only symptoms, as a rule, are almost constant hematuria, usually demonstrable only microscopically. If the glomerular lesions are very numerous, symptoms resembling those of subacute hemorrhagic nephritis may occur and may even cause a fatal issue.

The end result, if the glomerular lesions are very numerous, and if the cardiac lesion heals, is a contracted kidney which may produce typical symptoms and death.

[R. I. L.]

SURGERY, GYNECOLOGY AND OBSTETRICS.

APRIL, 1912.

1. \*THOMAS, B. A. *The Destruction of Tumors of the Urinary Bladder by a High-Frequency Current Effect, Known as Desiccation.*
2. FINNEY, J. M. T. *The Significance of Blood in the Stools.*
3. TAYLOR, R. T. *Stereo-Arthrolysis: A Preliminary Report and Experimental Study in Arthroplasty.*
4. BLAKE, J. A. *The Operative Treatment of Fractures.*
5. STEIN, A., AND HEIMANN, W. J. *Esthiomene and Secondary Elephantiasis Vulvæ.*
6. WOOLSEY, W. C. *Acapnia and Its Relation to Anesthetic Shock.*
7. DOWD, C. N. *Some Differences between the Surgery of Children and Adults.*
8. MAYO, C. H. *Observations on the Thyroid Gland and Its Diseases.*
9. MCFARLAND, J. *Apoplezia Uteri. A Well-Marked Case in a Woman of Fifty-Four Years.*
10. \*SCUDDER, C. L. *Congenital Stenosis of the Pylorus. The Surgical Treatment.*

1. Thomas claims for high frequency desiccation the probable future method of treating papillomata of the bladder. The apparatus and method of application through the cystoscope he describes and claims that the coil seems as effective as the static machine for generation of the high frequency current. Recurrences and metastases promise to be less frequent than by excision and should they occur would be more amenable to a repetition of similar treatment. The article is illustrated by a page of colored drawings and four favorable cases.

10. Scudder's article on pyloric stenosis of infants is clear-cut and concise, particularly in drawing the pictures of and contrasting true congenital pyloric stenosis and pyloric spasm, the first coming on suddenly in a healthy breast-fed baby (boy) with rather explosive vomiting, a continuously present palpable tumor and gradual loss of weight and all the signs of starvation in spite of every medical effort to relieve. The second condition, or pyloric spasm, generally occurs in the bottle-fed baby, which is liable to be of the excitable, irritable, neurotic type. The onset of symptoms is delayed for several weeks after birth. The stools contain fecal matter. The pyloric tumor, if felt, is felt only when the gastric contraction occurs, whereas the real tumor is independent of contraction. It is a passive tumor. These serious and desperate spasm cases are the ones that are easily confused with the true tumor cases. That true pyloric spasm can be cured by medical treatment in a large proportion of cases is true. It is also true that there are no cases of true tumor which have as yet been cured by medical treatment. Nor have so-called medically cured cases ever been proven to have had the disease, but on the other hand many of the supposed cures have relapsed and have been subsequently treated surgically, and successfully. Those who advocate and practice the medical treatment of true tumor cases do so upon the erroneous hypothesis that muscle spasm is the chief cause of the obstruction. They lose sight of the fact that it is the tumor that obstructs. [E. H. R.]

THE LANCET.

APRIL 20, 1912.

1. ADAMSON, H. G. *Goulstonian Lectures upon the Significance of Skin Eruptions. Lecture III.*
2. BALFOUR, A. *Mosquitoes and River Vessels.*
3. LOWE, T. P. *On Radium Emanation in Mineral Waters.*
4. \*HORDER, T. J. *Vaccine Therapy in Rheumatoid Arthritis.*
5. GUTHRIE, T. *The Recurrence of Adenoids.*
6. MCCONNELL, A. A. *Volvulus of the Spermatic Cord.*
7. SMITH, H. *The Treatment of the Early Stages of Senile Cataract.*
8. ABERCROMBIE, R. *Treatment by Means of Mechanical Therapeutics at the Edgar Allen Institute, Sheffield.*

4. Horder uses killed streptococci in his treatment of rheumatoid arthritis. He believes that vaccines play a favorable part in this treatment, but that they should be only a part of it; for the same reason it is difficult to say

how large a part vaccines play because they should not be used alone and because many joints are irretrievably damaged at the beginning. [J. B. H.]

## BRITISH MEDICAL JOURNAL.

APRIL 20, 1912.

1. \*PHILIP, R. W. *An Address on Tuberculization and Detuberculization.*
2. \*SHORT, A. R. *The End Results of Operation for Cancer of the Tongue.*
3. BELL, W. B. *Remarks on the Estimation of Calcium Metabolism.*
4. PARRY, T. W. *A Case of Osteitis Deformans in Which Fracture of a Femur Took Place as the Result of Stopping.*
5. POTTS, W. A. *Tests of Intelligence.*
6. MACKINTOSH, J. S. *Arrest of Severe Epilepsy in a Child Aged Four.*
7. LOWE, T. P. *On Radium Emanations in Mineral Waters.*
8. WALFORD, W. G. *The Effect of Unsuitable Neck Clothing on Health.*
9. GOODALL, A. *Tincture of Digitalis: Its Potency and Keeping Properties.*
10. ROTH, P. B. *Lateral Curvature of the Spine (Scoliosis).*
11. BOX, C. R. *Left-Sided Subphrenic Abscess Due to Perforated Duodenal Ulcer.*
12. MULLOCK, R. W. *Operation for Decompression: Recovery.*

1. Philip's address before the International Tuberculosis Congress should be read by every one. It is an eloquent and scholarly presentation of the subject of the world-wide infection of the human race with tuberculosis and of our efforts to overcome it. Among other things he calls attention to the need of striking out the so-called classic description of phthisis and teaching in its place the signs and symptoms of early diagnosis; he urges that physicians drop the artificial distinction between medical and surgical tuberculosis and realize that after all it is the infection with tuberculosis which is important. He calls attention to the fact that measures which destroy tuberculosis are merely measures which demand right living and which should be adopted by every one. He calls attention to the early infection of tuberculosis, that it is not a disease of "youth and early manhood," but of infancy and childhood. He outlines a scheme for the municipal control of consumption as he has introduced it in Edinburgh. He urges education of physicians and laymen. (The article must be read and studied to be appreciated. J. B. H.)

2. Short summarizes his paper on end results of tongue cancer as follows: The immediate mortality in 38 operations was 5.3%, while of 29 cases 7 were apparently cured (well after two years), giving a percentage of 24.1 of cures. [J. B. H.]

## INDIAN MEDICAL GAZETTE.

APRIL, 1912.

1. \*ROGERS, L. *The Estimation of the Specific Gravity of the Blood and Its Value in the Treatment of Cholera.*
2. \*BISHOP, T. H. *A Preliminary Note on a New Method of Intraperitoneal Administration of Rogers' Hypertonic Solution in Cholera.*
3. \*GANGULY, L. *Cholera in the Campbell Hospital, 1911.*
4. SMITH, H. *The Treatment of the Early Stages of Senile Cataract.*
5. FINK, L. G. *Black-Water Fever in Burma.*
6. KEATES, H. C. *A Case of Suppurating Ovarian Dermoid Cysts.*
7. \*CHATTERJI, K. K. *Cure of Hydrocele by Lymphangioplasty.*
8. CAMPBELL, T. V., AND THOMPSON, T. T. *A Case of Multiple Cysticercus Cellulosa.*
9. SEUNKER, C. P. O. *The Treatment of Sprains, Strains and Rupture of Muscles by Strapping, Movement and Rubbing.*
10. NANJAPER, C. A. *History of a Case of "Myositis Ossificans."*

1, 2, and 3. These three leading articles constitute a symposium describing the latest methods in the treatment of Asiatic cholera in its native habitat.

7. Chatterji discusses the pathology of hydrocele, the etiologic factors leading to its great local frequency in India, and describes a new operation for its cure by "internal drainage." [R. M. G.]

## WIENER KLINISCHE WOCHENSCHRIFT. No. 17.

APRIL 25, 1912.

1. KRAUS, R., AND ISHIWARA, K. *The Behavior of Animal Sarcoma Cells toward Animal and Human Serum. Fifth Communication.*
2. \*BUCURA, C. J. *Minor Gynecologic Conditions.*
3. PÜLLZ, A. *Small Cystic Degeneration of the Ovaries as Probable Cause of Incontrollable Genital Hemorrhages.*
4. ERBEN, S. *Differential Diagnosis of Pains in the Leg.*
5. FUCHSIG, E. *Arsenic Poisoning from the Uterus.*
6. \*FISCHER, J. *Plague Justice.*

2. Bucura reports two interesting gynecologic cases, — the first a patient of fifty-five, with leukoplakia and carcinoma of the vulva, for which total extirpation with dissection of the nodes was done; the second a patient of thirty with torsion of a hypoplastic myomatous uterus, which was removed by supravaginal hysterectomy. The article is well illustrated with pictures of the gross specimens and with photomicrographs.

6. In an exceedingly interesting article, Fischer reviews the medieval European history of bubonic plague, with especial reference to the legislative statutes and ordinances adopted to check or prevent its spread. According to Sorbait, of Vienna, the number of persons who died of the disease in that city in the single year 1679 was 76,971. Other authorities describe a total mortality in that epidemic of 140,516.

The most rigorous cleanliness of houses, shops and stables, of streets and courts, of clothes and bedding, was prescribed, and commissioners were appointed to enforce the observance of these rules. Useless animals, as dogs, cats, guinea pigs, rabbits and pigeons, were not tolerated in the houses either of the city or of its suburbs. The schools, both Latin and German, were closed, and all popular entertainments, dances, wedding feasts, baptisms and markets were forbidden. Hearses were indicated by black banners with a white cross. Passports were required for all those entering or leaving the city, and so far as possible quarantine stations were provided at the several gates.

Very rigorous punishments were provided for violation of any of these ordinances. There are extant several imperial rescripts, bearing dates of 1680, 1720 and 1738, refusing the right of appeal to persons convicted of offenses during times of plague.

In 1681, Georg Bayr, the superintendent of a plague hospital in Vienna, was hanged on the gallows for receiving presents from patients during the epidemic of 1679. Despite the grievousness of this fault in a superintendent, the punishment certainly seems greater than he deserved. Fischer's article, which should be read in full to be appreciated, closes with the quotation of the exceedingly curious and interesting Latin epitaph which was placed over Bayr's grave. [R. M. G.]

## ARCHIV FÜR KLINISCHE CHIRURGIE.

VOL. 97. PART III.

20. BOIT. *Leontiasis Ossea and Osteitis Fibrosa.*
21. \*KAUSCH, W. *Anastomosis between the Biliary Tract and the Intestines.* (Concluded.)
22. \*KOSTLIVY, S. *The Operation for Purulent Meningitis.*
23. TODYO, T. *The Pathogenesis of So-Called Spontaneous Gangrene.*
24. LEVIT, H. *Closure of Tracheal Defects by a Flap from the Fascia Lata Femoris.*
25. SCHAAK, W. *Skull Fractures and Their Treatment, with Particular Mention of Primary Skull Plastics.*
26. BARDENHEWER, O. *Do Injections of Iodine Produce Basedow's Disease?*
27. SCHEPELMANN, F. *Experiments in Surgery of the Heart.*
28. KÖRBL, H. *X-Ray Treatment of Skin Cancer, Espe-*

*cially of the Basal Cell Type; Its Histological Appearance Before and After the Exposure.*

29. SPRENGEL. *Comments upon the Article by Dr. Hans Keler on "The Abdominal Incision, the Suture and the Drainage in Gallstone Operations."*
30. KÖRTE, W. *Some Remarks Concerning Abdominal Incisions.*
31. KLOSE, H., AND LIESEGANG, R. E. *Remarks upon O. Bardenheuer's Article in this Issue.*

21. Kausch summarizes his paper on hepatico-enterostomy as follows: The gall bladder is the most suitable part of the biliary tract to use for anastomosis, and should not be removed, even when severely damaged, as one cannot be sure that the natural passages will not functionate later. The stomach, duodenum or jejunum may be used to form the anastomosis; a tube made by a flap from the wall of one of these is better than a rubber tube. This operation should be resorted to only when strictly necessary; in some cases of icterus and cholangitis the patient cannot stand such an operation, and in that case a cholecystostomy must be done.

22. Kostlivy takes the ground that suppurative meningitis is a surgical disease requiring early drainage as much as is purulent peritonitis. Even if the entire subdural space cannot be drained, the drainage of the primary focus may help the organism to resist the bacterial invasion. The meninges should drain more completely than the peritoneum, because of the cerebrospinal fluid which is constantly secreted.

Meningitis may be due to a local cause, as osteitis, skull fracture, etc., in which case one should drain near or at the site of infection; or may be metastatic. In the latter case, one may make numerous punctures to determine the whereabouts of the process, or may trephine through both parietals.

Kostlivy has collected a few cases of operation with recovery; he himself has had three operative cases, with two deaths. [G. G. S.]

#### VOL. 97. PART IV.

32. VON FRISCH, O. *The Use of Silver Wire in Surgery.*
33. \*STIEDA, A. *Prostatectomy by Wilm's Method.*
34. ORSÓS, F. *The Most Likely Places for Indirect Injury and Chronic Traumatic Disease of the Cervical Spine.*
35. PHILIPOWICZ, W. *Further Observations on the Theory and Etiology of Volvulus of the Small Intestine.*
36. \*LAWROWA, M. *Experimental and Clinical Experiences with Almatein Bone Wax.*
37. HERDE, M. *The Theory of the Paraganglioma of the Adrenals.*
38. WAELLI, E. *Congenital Diaphragmatic Hernia through the Foramen of Morgagni and Its Diagnosis by the X-Ray.*
39. RÓNA, D. *Appendicitis and Dysmenorrhea.*
40. LEUDORF, A. *The Function of the Prostate in Urination and the Mechanism of Prostatic Irritability.*
41. BABITZKI, P. *Rupture of a Hydronephrosis and Pseudohydronephrosis.*
42. GREKOW, I. I. *The Radical Treatment and Prevention of Recurrences of Polar Torsion of the Sigmoid.*
43. BIRCHER, E. *True Phlebeclasy of the Arm.*
44. BIRCHER, E. *Conservative or Radical Cardiac Surgery? Remarks upon Suture of the Heart.*
45. HÖPFUER, E. *A Peculiar Case of Ileus Due to Diverticulum.*

33. Stieda mentions the objections to the suprapubic and perineal methods of prostatectomy now in use, those pertaining to the former being the excessive hemorrhage, uphill drainage and slow healing; to the latter, the poor functional results frequently obtained. He describes Wilm's operation, which combines the advantages of both. With the patient in lithotomy position, an incision 4-5 cm. long is made parallel to the left descending ramus of the os pubis. This is carried as deep as the pelvic diaphragm, the levator ani pushed aside and the left lateral lobe developed. The capsule is incised and both lobes shelled out through this incision. The bladder wall is then opened through the prostatic cavity and a drainage tube inserted, and the cavity lightly packed. Thus hemorrhage can be well controlled, the bladder satisfactorily drained, and yet the urethral sphincter is not jeopardized. The operation takes ten to twelve

minutes and most of the patients resume micturition within three weeks. Stieda reports five cases.

[The most evident fault in this method seems to the reviewer the distance of the right lobe from the incision in cases in which the prostate cannot be shelled out, but requires careful dissection.]

36. Almatein is a condensation product of hematoxylin and formaldehyde, which in the presence of warmth and alkalinity is resolved into its constituents. Werndorff used this preparation in various ways, finally making of it a bone wax for use in filling old osteomyelitic cavities. Lawrowa applied this to rabbits, and on examination of their organs several months later found that the substance was deposited in the veins of all the parenchymatous organs, even in the alveoli of the lungs, in such quantities as would surely lead to degenerative changes. He warns, therefore, against its use, advising instead the original wax of Mosetig-Moorhof, which answers all requirements. [G. G. S.]

### Miscellany.

#### SOURCES AND IMPORTATION OF CINCHONA AND QUININE.

REPORT from Washington, D. C., on May 6, states that figures recently published by the bureau of statistics of the United States Department of Commerce and Labor indicate that during the period of twelve years from 1900 to 1911, inclusive, there have been imported into this country about 40,000,000 oz. of quinine and nearly 50,000,000 lb. of cinchona and other quinine-bearing barks, aggregating about \$14,000,000 in value. It is estimated that during the current fiscal year the total importation of cinchona bark will probably amount to about 3,500,000 lb., valued at about \$250,000, and of quinia and its various salts, about 3,000,000 oz., valued at approximately \$500,000.

"While quinine has long been a staple product of importation into this country, no marked growth in its imports has occurred in the last quarter of a century. In 1882, for example, over five million pounds of cinchona bark were imported; in 1892, three and one-half million; in 1902, three and three-quarters million. In 1882 the imports of quinine and the various salts of quinine amounted to 795,000 ounces; in 1884, one and one-half million ounces; in 1892, two and five-sixths millions; in 1902, two and five-sixths millions; in 1906, four and three-quarters millions; and in 1911, three and one-quarter million."

Though the importation of cinchona and quinine has shown only a moderate decline, the import value of these substances has steadily fallen.

"In 1882 the average import value of quinine per ounce was a little less than two dollars; in 1902 it had dropped to twenty-eight cents, and in the first nine months of the current fiscal year was but fifteen cents. Likewise cinchona bark, the botanical source of quinine, has dropped in average import value per pound from thirty-six cents in 1882 to less than eight cents in 1912.

"The decrease in imports of quinine is ascribed to a variety of causes, among them the improved conditions of sanitation throughout the country,

thus decreasing the prevalence of malarial and other fevers in the treatment of which quinine was formerly the chief reliance. The drainage of swampy districts, the better screening of homes, and the discovery of the relation between mosquitoes and malaria have had a large part in reducing the prevalence of this disease, while the development of the chemical industry has brought into use a large body of coal tar and other preparations which share with quinine its popularity as an antipyretic and general tonic.

"Cinchona, or Peruvian bark, is the generic name of a number of trees indigenous to Peru, Ecuador and Bolivia, formerly the chief producers of that article. In the seventeenth century, however, it was first imported into Europe, where its value was quickly recognized and its use was largely extended. Later the cinchona tree was transplanted from South America to Java, India, Ceylon and certain other countries, and its cultivation developed until Java and the British East Indies have become the world's chief producers of cinchona bark. With this development of its culture in the Orient has come a marked change in the source of the cinchona bark imported into the United States in the last thirty years. In 1882, when the annual imports exceeded 5,000,000 lb., nearly 3,000,000 lb. were imported from Colombia, 1,333,000 from England, about 600,000 lb. from South America exclusive of Colombia, 106,000 lb. from Mexico, and smaller quantities from the British West Indies, the British East Indies, Central American States, France, Germany and the Dutch West Indies. In more recent years, however, Holland is nominally the source of practically all the cinchona and other quinine-bearing barks imported. In the fiscal year 1911 the total imports of the class named were 3,826,000 lb., of which 3,769,000 were stated as from The Netherlands, nearly 38,000 from Germany, and the remaining 19,000 lb. from England. Presumably a large part of the cinchona imported from The Netherlands is from Java, whose exports of that article, chiefly to The Netherlands, amounted to 18,000,000 lb. in 1910.

"Germany is the great source of the quinia, and of the various salts extracted from cinchona bark, imported into the United States. Of the 3,219,000 oz. imported in the fiscal year 1911, 1,958,000 oz. came from Germany, as against 946,000 oz. from The Netherlands, 207,000 oz. from the Dutch East Indies, 83,000 oz. from England, and 25,000 oz. from France."

Apparently quinine, like tobacco, comes in considerable part from

"The furrows of far-off Java,  
The isles of the Spanish main."

#### DECLINE OF FERTILITY AMONG PURE-BLOODED INDIANS.

RESULTS of a recent investigation by the United States Census Bureau indicate a rapid decline in the number and propagation of pure-blooded Indians in this country.

"As a basis for its investigations the census bureau selected 21,532 Indian women married for at least one year. Widowed and divorced women as well as those married more than once were excluded. These women were not all full-blooded. Some were of mixed blood with full-blooded husbands, some of mixed blood with white husbands, and some of mixed blood with mixed-blood husbands."

Of the married full-blooded Indian women between the ages of sixteen and forty-four, it was found that over 10% bear no children at all; and of those who do bear children, 18.8% do not bear more than two.

"The result of the investigation indicated that the number of children which each woman bore increased in proportion to the amount of white blood. It was found that 19.5% of the full-blooded women who married a full-blooded husband of the same tribe bore no more than two children, while among those who married a white man the percentage decreased to 7.8%. Among the mixed-blood women 16% of those having full-blooded husbands bore no more than two children, 14.2% of those who married a half-breed, and 12.9% of those who married a white man."

Infant mortality also appears to bear a constant ratio to the proportion of Caucasian blood:

"At the time that the census bureau conducted its investigations, out of the total number of children born to Indian women between the ages of fifteen and forty-five who had been married from ten to twenty years, but 74.7% were alive. Among those of the women who were full-blooded with full-blooded husbands the proportion was 70.2% and among mixed bloods 78.8%. Among full-blooded women having mixed-blood husbands the proportion was 71.2% and among those having white husbands the proportion was 82.9%. Among mixed-blood women with mixed-blood husbands the proportion was 77.8%, and among mixed-blood women with white husbands the percentage was 83.

"The above figures indicate that the proportion of surviving children is higher among mixed-blood women and higher in case of marriage with whites than in case of marriage with full-blooded Indians."

Like other aboriginal stocks, the Indians seem destined to be absorbed or exterminated by the more civilized race.

#### PURIFICATION OF OYSTERS BY SEA-WATER.

A RECENT issue of the *Scientific American* describes experiments by two French scientists, Fabre-Domergue and Bodin, in the purification of oysters by sea-water.

"M. Fabre-Domergue proposes to use basins having a filtered sea water circulation in them, and thinks that these could very well be used in the oyster industry, doing away with various difficulties. But much care needs to be taken in

laying out such basins so as to have healthy oysters without lessening their value at the same time. He shows that in his experiments the oysters left for eight days in filtered sea water basins do not lose weight, fleshiness or vital resistance, and the length of time can be doubled without any harm. M. Bodin, in some late experiments, uses artificial sea water of a composition very nearly that of natural sea water, but having a slightly less density. The water is taken out of the basin by a pump and goes to a sand filter, then returning to the basin and making a closed cycle. The water is entirely renewed in one and one-half hours and this keeps up for twelve hours out of twenty-four. He observed 500 oysters, in lots of 100 specimens, and these were treated for varying lengths of time. After eight days in artificial sea water the oysters showed no signs of ill-effects, and the same result was observed after fifteen and thirty days in other tests. The weight and the taste of the oyster are little changed after eight days, but after a longer time it is found that the taste becomes less salty than in ordinary oysters. It thus appears evident that artificial sea water can be used, and this has the advantage of allowing the basins to be installed at inland points."

#### SCHOOL CLINICS IN ENGLAND.

REPORT from London on May 1 states that two new school clinics have recently been established in England, at Ealing and at Godalming respectively, and six others are projected in the near future.

"The Shipley Education Committee has a project for the establishment of a school clinic at Sir Titus Salt's hospital. The plan has been approved provisionally, subject to sanction by the board of education and by the governors of the Salt Charity for the use of the hospital. The Plymouth committee has also adopted a proposal for the formation of a school clinic, and the plan has been forwarded to the board of education for approval. The Birmingham committee has a proposition under consideration, but it has been deferred pending the formation of the new education committee necessitated by the extension of the city area. At Cardiff, where a small school clinic is already at work, the medical officer of health urges the establishment of a complete clinic. The proposal is under consideration. West Ham and Guildford are also about to follow the lead given by these towns."

#### FUNGICIDAL PROPERTIES OF THORIUM.

In a recent issue of *Science Conspicuous* is an account, by Dr. Werner von Bolton, of his experiments on the bactericidal properties of thorium, and its effect on various forms of animal life. He found that the lifetime of certain fishes, notably *amphioxus lanceolatus*, is greatly prolonged by adding thorium to the water of tanks in which they were kept.

"The experiments were carried out with the fish by dividing them into three lots. Two of these lots were placed in water that had been treated with thorium, while the third was left in untreated water. After seven months over 90% of the fish in the thorium-treated environment were still living, while those in the untreated water died within five weeks. The walls of the vessel containing no thorium were covered with fungus, while the other two vessels were almost free from this growth. The fungus probably kills the fish, and they were, therefore, able to live longer in the vessels where the inimical organisms had been destroyed."

#### MEMORIAL NOTICE OF DR. GEORGE LEROY RICE.

##### RESOLUTIONS BY THE COMMITTEE OF THE MASSACHUSETTS MEDICAL SOCIETY.

GEORGE LEROY RICE, M.D., died at the home of his daughter in Salamanca, N. Y., Nov. 28, 1911.

He was born in North Adams, Mass., May 8, 1838. His alma mater was George Washington University, D. C. He was graduated in 1863.

While a student he joined *The Cassius M. Clay Guards*, a military organization sworn to defend the city and Capitol at all hazards. This made him one of the personal bodyguards of President Lincoln at the time of his inauguration.

At the beginning of the Civil War, he became a medical cadet in the army, was soon promoted to assistant surgeon, and experienced a large hospital service.

At the close of the war he returned to North Adams, where he was honored by his fellow citizens with various positions of responsibility. He was postmaster under President Cleveland, was City License Commissioner, a charter member of the Charles D. Sanford Post, G. A. R., a member of the Board of Education, of the Board of Health and the North Adams Hospital Staff.

In all of these various positions of trust he did faithful and efficient work. He was a member of The Massachusetts State Medical Society.

Your committee feels that by the death of Dr. Rice this society, of which he was a long-time member, loses one who was always gentlemanly and courteous toward his fellow practitioners, patient and sympathetic toward the sick and suffering—a beloved family physician. That the community, in all his varied official positions, loses an honest and most worthy patriot.

*Therefore be it resolved*, that we extend our sympathy to his daughter, brother and their families.

*Resolved*, that we send a copy of this obituary to each of said families, spread a copy of it upon our records and send a copy to the BOSTON MEDICAL AND SURGICAL JOURNAL for publication.

ORLANDO J. BROWN,  
HENRY J. MILLARD,  
EDWARD E. MATHER,  
Committee.

### CENTENNIAL MEMORIAL OF DANIEL BRAINARD, M.D.

ON May 15, 1812, Daniel Brainard was born at Whitesborough, Oneida County, N. Y., the son of a farmer. He studied medicine first as an apprentice to Dr. Harold Pope, and later at the Jefferson Medical College, Philadelphia, from which he received the degree of M.D. in 1834. After practicing his profession for a short time at Whitesborough, he went to Chicago, then a frontier settlement, where he acquired considerable local reputation for his skillful treatment of fractures.

In 1839, and again in 1852, Dr. Brainard studied in Paris, and shortly after his first return from that city he founded the Rush Medical College. At the time of his second visit to Europe, he was made an honorary member of the Société de Chirurgie, Paris, and of the Medical Society of the Canton of Geneva, Switzerland. In 1854 he was awarded a prize by the American Medical Association for an essay on "The Treatment of Ununited Fractures." He died of Asiatic cholera on Oct. 10, 1866, at Chicago, during an epidemic of the disease in that city, and the notice of his death was printed in the issue of the JOURNAL for Oct. 18 (Vol. lxxv, p. 252).

Dr. Brainard was one of the famous early surgeons of Chicago, during the years when its developmental history was in the making. The centennial anniversary of his birth recalls with interest the memory of this pioneer medical worthy of the Northwest.

### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, APRIL 27, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	13	1
Chicago.....	695	188	Waltham.....	5	1
Philadelphia.....	—	—	Brookline.....	4	—
St. Louis.....	—	—	Chicopee.....	8	4
Baltimore.....	—	—	Gloucester.....	4	1
Cleveland.....	—	—	Medford.....	6	3
Buffalo.....	—	—	North Adams.....	9	4
Pittsburg.....	—	—	Northampton.....	5	2
Cincinnati.....	—	—	Beverly.....	8	—
Milwaukee.....	—	—	Revere.....	3	1
Washington.....	—	—	Leominster.....	4	1
Providence.....	—	—	Attleboro.....	2	1
Boston.....	232	52	Westfield.....	7	2
Worcester.....	47	8	Peabody.....	3	2
Fall River.....	38	10	Melrose.....	3	—
Lowell.....	45	14	Woburn.....	6	0
Cambridge.....	26	5	Newburyport.....	7	—
New Bedford.....	34	10	Gardner.....	9	3
Lynn.....	17	5	Marlboro.....	9	2
Springfield.....	16	1	Clinton.....	3	—
Lawrence.....	26	6	Milford.....	—	—
Somerville.....	19	2	Adams.....	2	0
Holyoke.....	17	10	Frammingham.....	4	1
Brookton.....	13	1	Weymouth.....	—	—
Malden.....	6	1	Watertown.....	2	0
Haverhill.....	11	5	Southbridge.....	3	1
Salem.....	14	4	Plymouth.....	2	1
Newton.....	11	1	Webster.....	4	2
Fitchburg.....	8	4	Methuen.....	4	2
Taunton.....	17	4	Wakefield.....	4	1
Everett.....	4	1	Arlington.....	1	—
Quincy.....	7	—	Greenfield.....	1	—
Chelsea.....	10	6	Winthrop.....	2	—

### APPOINTMENT.

DR. DAVID LINN EDSALL, professor of hygiene and preventive medicine at Washington University, St. Louis, has been appointed Jackson professor of clinical medicine at the Harvard Medical School.

### NOTICE.

THE following notice was published on May 11 in the Boston City Record: "A vacancy will soon exist in the position of chairman of the Board of Health of the City of Boston. The duties of the chairman and his two associates are various and responsible. They embrace the control of contagious diseases, including bacteriological tests, disinfection and preventive measures; the inspection of milk, vinegar, provisions, tenements, slaughter houses, stables and occupations and conditions dangerous to health; the medical inspection of the schools, containing more than 100,000 pupils; the management of smallpox hospital and a quarantine station; the control of convenience stations throughout the city; the compilation and publication of vital statistics, and other miscellaneous duties. The department has over two hundred employees. The mayor will consider applications from physicians, sanitary engineers, or other persons experienced in this field who are American citizens. The salary of the position is now \$4,500 per year, but the mayor has recommended an increase to \$5,000, and is willing to recommend more. The appointment is made by the mayor, subject to confirmation by the civil service commission, and the new appointee will serve out two years of an unexpired term. The full term is three years. Applications should be addressed to John F. Fitzgerald, mayor, Boston, Mass."

### SOCIETY NOTICE.

THE BOSTON SOCIETY OF MEDICAL SCIENCES. — The next meeting will be held on May 21, 1912, at the Harvard Medical School, in the amphitheater of Building D, at 8.15 P.M. The following papers will be presented: "Pasteurization of Milk under Practical Conditions," Dr. M. J. Rosenau; "The Antibodies Produced by Various Constituents of Dog's Bile," Drs. Howard T. Karaner and Richard Mills Pearce; "A Study of the Variations in Woman's Pelvis, Based on Observations Made on Two Hundred and Seventeen Specimens of the American Indian Squaw," Dr. A. B. Emmons; "The Results of the Injection of Bovine Bile into Rabbits," "The Normal Temperature of Rabbits," Dr. Channing Frothingham, Jr., and Mr. G. R. Minot; "A Few Remarks on B. Abortus and Guinea-Pig Infection. With Lantern Slides," Dr. Marshall Fabian. For prompt publication, abstracts of these communications should be ready at the close of the meeting.

CLEVELAND FLOYD, *Secretary.*

### DETAIL OF NAVAL SURGEON.

It is announced that Medical Inspector C. B. Wilson, U. S. N., now attached to the receiving ship at the Charlestown Navy Yard, has been detailed to succeed Medical Director John M. Edgar, U. S. N., as commander of the United States Naval Hospital at Chelsea, Mass. Dr. Wilson will assume his new duty on June 1, 1913.

### RECENT DEATHS.

SIR FREDERICK CHARLES WALLIS, B.A., M.B., B.C. Cantab., F.R.C.S. Eng., who died on April 26 at London, was born in 1839. After graduating from Calus College, Cambridge, he studied medicine at St. Bartholomew's Hospital Medical School, becoming M.R.C.S. in 1883, and F.R.C.S. in 1885. He was a brilliant practitioner, and became known as an authority on diseases of the rectum. He was surgeon to Charing Cross Hospital, St. Mark's Hospital, and the Grosvenor Hospital; and consulting surgeon to several other British medical institutions. He was knighted in 1911.

DR. JACOB M. LIPSCHUTZ, of the Borough of the Bronx, New York City, died suddenly from cardiac disease on May 9, at the age of twenty-eight years. He was graduated from the medical department of Columbia University, New York, in 1905, and was associate radiologist to Lebanon Hospital, assistant laryngologist to the German Poliklinik, and visiting physician to the Sanitarium for Hebrew Children at Rockaway Park.

DR. WILLIAM S. CHEESMAN, a prominent surgeon of Auburn, N. Y., died on May 7, after a long illness, at the age of fifty-nine years. He was a graduate of the Brooklyn Polytechnic Institute and of Princeton University, and received the degree of M.D. from the College of Physicians and Surgeons, New York, in 1879; after which he pursued a course of study in Vienna and Berlin. He had been for a number of years attending surgeon to the Auburn City Hospital. Dr. Cheesman was a son-in-law of the late Rev. Dr. Theodore Cuyler.



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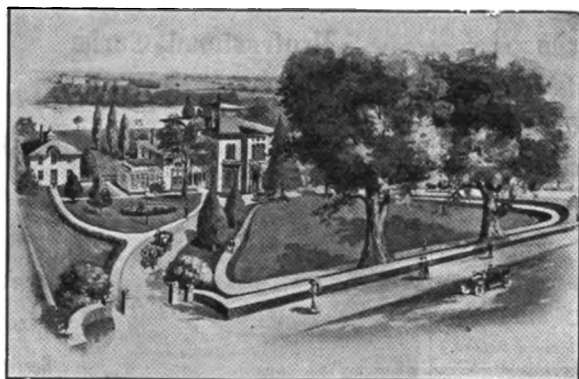
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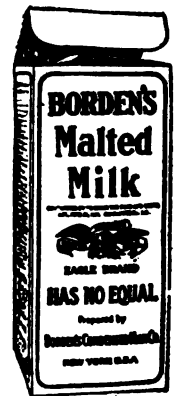
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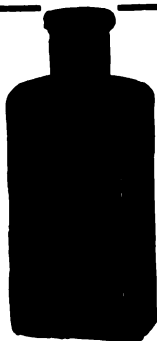
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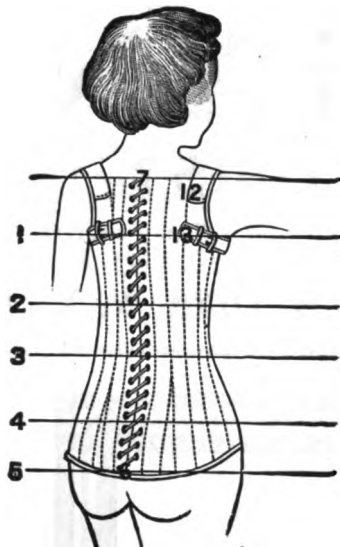
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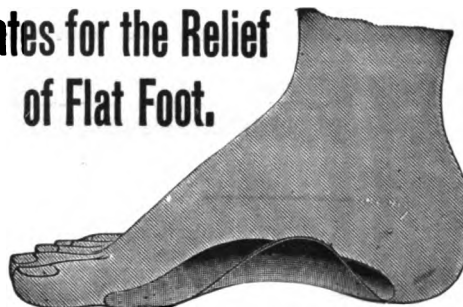
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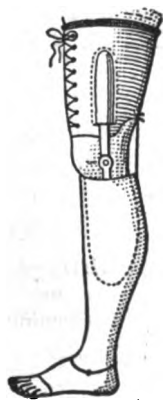
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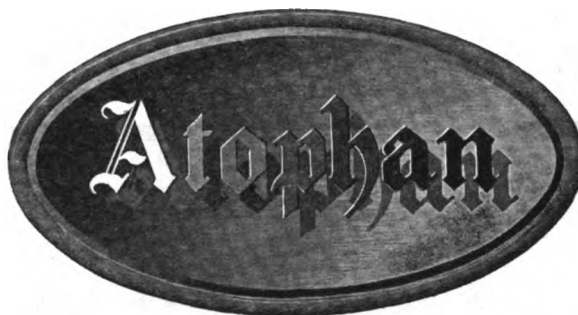
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## Original Articles.

## CAUSES FOR FAILURES IN TREATMENTS OF CHRONIC JOINT DISEASES, AND SOME SUGGESTIONS HOW GREATER SUCCESSES CAN BE ATTAINED.

BY H. W. MARSHALL, M.D., BOSTON.

CAUSES for failures include those originating with patients themselves; matters concerned with their lack of perseverance, the state of their health, and the stages of advancement of their arthritic lesions; secondly, those causes found in the general lack of understanding of arthritis; and thirdly, the failures for which lack of skill of physicians individually is responsible.

All of these are of great moment, but an attempt will be made to show that lack of skill among physicians is common and among most important of causes; and that new discoveries will not compensate for lack in dexterity, and only through acquisition of greater expertness will there be an increase in the percentage of cures among a large class of patients.

It seems true, while granting that comprehensive new discoveries are needed for a few poorly understood types of arthritis, and that very many new details still have to be explained about many familiar kinds of joint lesions, that nevertheless there should be fewer instead of more remedies used than there are at present, if greater skill in prescribing therapeutic measures is to be acquired.

Now there are more kinds and numbers of remedial agents in use than can be skillfully employed by any one person; moreover, the therapeutic values of some of them are not thoroughly established, and what seems to be needed in addition to search for new ones is a sorting over and elimination of some of those already known. Skillful employment of fewer remedies of well-recognized and thoroughly understood action should be advocated rather than the use of many old ones and most of the latest ones without adequate understanding of their physiologic actions, and without correct observations upon their effects when they are employed. If these precautions are not carried out, prescriptions are necessarily unskillfully made, and treatments become unsuccessful for these reasons.

The subject of chronic arthritis is an extremely interesting one when its complexities become familiar, and many of its obscurities then are seen to be difficulties of keeping in mind confusing varieties of remedies, theories and clinical types. So in presenting a paper upon this subject there must be simplicity combined with sufficient completeness to make the presentation a clear one.

The situation, therefore, will be mapped out first, before attempting to discuss the matters of skill which form the main topics of the article; and a series of tabulated statements will be given, in somewhat disconnected manner, for the purpose of bringing together all of the various points bearing upon success.

Success depends upon the following considerations:

- I. Knowledge of the nature of arthritis.
- II. Knowledge of the various clinical types of arthritis.
- III. Knowledge of the physiologic action of each therapeutic agent used in arthritis.
- IV. Knowledge of the principal therapeutic agents.
- V. Knowledge of the conditions of patients.
- VI. Accuracy of judgment in making diagnoses.
- VII. Art in prescribing appropriate remedies.

Each of these considerations will be amplified and briefly defined.

I. Knowledge of the nature of arthritis includes recognition of the following points:

(a) That health of joints represents a *physiologic* state dependent upon the maintenance of normal physiologic and anatomic relations, and that arthritis develops only when defects arise in these particular conditions.

(b) That physiologic influences always act in combinations, and that their combined actions upon the joint tissues keep a balanced state of healthy equilibrium when no lesions exist. If the combined physiologic influences, through deficiencies or excesses in proportions of normal vascular constituents, or through abnormal or foreign irritants in the blood stream, or on account of abnormal mechanical, external or nervous stimulations, cause lesions, then pathologic changes develop as soon as such deficiencies, excesses, abnormalities, etc., are sufficiently great to overcome local resistances within the joint tissue cells; and so in prescribing treatments notice has to be taken of the exact degrees, combinations and kinds of these defective relations which are producing lesions, if they are to be properly corrected in a skillful manner.

(c) That joint tissues themselves exhibit variable resistances and vitalities depending upon congenital and acquired peculiarities.

(d) That all physiologic influences upon which health of joints depends may be included under the following four main groups:

(1) External physical influences; e. g., climatic conditions, traumata, and physical therapeutic agents.

(2) Nervous influences which produce trophic and vasomotor changes in joints.

(3) Vascular influences; toxins, drugs, food substances, etc. The principal foreign elements of the blood associated with joint disease, so far as is known, are bacteria and their toxins; and occasionally metallic poisons like lead.

Excessive quantities of certain metabolic vascular constituents cause, or are associated with, arthritis, as when circulating blood contains too many urates in gout.

Important relations between arthritis and internal secretions of various organs may exist, but have yet to be conclusively shown.

Depleted conditions, anemias, etc., are frequently associated with joint lesions, presumably because there are deficiencies in the blood at

such times which upset its proportions of normal healthy constituents. Under these conditions irritants like intestinal bacterial products or bacterial toxins from other foci probably increase relatively, and temporarily exert their harmful influence.

(4) Mechanical factors, the ordinary mechanical frictions and pressures that are exerted during exercise and which are influenced by body weight. These are increased if pathologic changes in joints happen to exist from faulty development, or previous joint trouble, or from unusual strains due to deformities, etc.

II. Knowledge of clinical types of arthritis includes familiarity with the following varieties; definitions given are not complete and are descriptions simply to assist the reader in identifying the types that are mentioned:

(a) Hypertrophic arthritis (osteo-arthritis; arthritis deformans). By this is meant the clinical type of unknown etiology seen typically in persons of middle or old age. It affects one or many joints, and is identified by true bony spurs, nodes and enlargements about the articulations which often tend to limit their motions.

(b) Atrophic arthritis (rheumatoid arthritis; arthritis deformans, hypotrophic arthritis; metabolic osteo-arthritis). This type is of unknown etiology, and usually is polyarticular, with symmetrically distributed lesions. It is accompanied typically by vasomotor and cutaneous changes, muscle atrophies, uniform thinning of bony trabeculae and cartilage destruction that have suggested a neuropathic origin to some investigators. To others it seems to be an unknown infection or derangement of internal secretions, or both, acting upon the joints and the nervous system simultaneously. Involvement of nervous structures is apparent from symptoms and physical changes, and uncertainties of opinion exist mainly regarding whether lesions of nervous structures represent causes of joint lesions or are the effects of some pathologic influence of the blood upon nerves and nerve cells independently of joints. The possibility of vascular irritants producing changes in the nervous system and the latter in turn contributing to joint disturbances also has to be thought of, as with tabetic lesions of syphilis.

(c) Neuro-arthropathies (tabes dorsalis; syringomyelia, etc.).

(d) Mechanical arthritis (villous arthritis; traumatic arthritis). The acute traumatic variety is self-explanatory, and the lesions in villous arthritis are produced by pressures, frictions, pinchings and pullings of normal movements when the latter are excessive in amount, or when motions are unduly irritating on account of previous or existing arthritic disease or injuries.

(e) Infectious arthritis in this description is made to include local articular infections and arthritis caused by distant bacterial foci which act through toxins contributed to the blood stream, and also arthritis presumably of similar nature that is associated with fevers.

(1) Acute rheumatic fever, (2) tubercular arthritis, (3) gonorrheal arthritis, (4) pyogenic

arthritis, (5) syphilitic arthritis, (6) intestinal toxemic arthritis, (7) typhoidal arthritis, (8) dysenteric arthritis (bacillary and amebic), (9) pneumococcal arthritis, (10) influenzal arthritis, (11) malarial arthritis, (12) scarlatinal arthritis, (13) antitoxic arthritis, etc.

(f) Toxic arthritis in this paper is made to include those instances due to toxic substances in the blood presumably non-bacterial in origin. Example, lead.

(g) Metabolic arthritis is illustrated by gout and defects among internal secretions if these are proven to be causes.

(h) Congenital articular weaknesses. Defects of very pronounced degree in local resistances rather than decided abnormalities among contributing external physiologic influences. The latter, however, act as exciting causes in the usual way, but always without exceeding limits which may be beneficial and normal with average healthy joints. Example, hemophilia.

When any of the foregoing clinical types due to infectious, metabolic, neuropathic factors, etc., combine the effects of abnormal external influences acting upon excessively weak local articular resistances, the severest, most intractable types of joint disease result.

III. Knowledge of the physiologic actions of remedies affecting joint diseases includes consideration of many physiological, pharmacological, biological, chemical and physical actions of many therapeutic agents. The actions of these many remedies obviously cannot be given.

IV. Knowledge of the principal agents used therapeutically includes familiarity with the following main groups; and two of these are amplified, as examples, to suggest their complexities.

(a) Diets, (b) drugs, (c) organ extracts, (d) vaccines, (e) sera, (f) physical therapy, (g) orthopedic appliances, (h) surgery.

Physical therapy includes hydrotherapy, radiant heat, electricity, bakings, massage, mechanotherapy, radiotherapy, passive hyperemia, etc.

Drugs which are used in arthritic conditions are of the most varied kinds; as, for example, salicylates, colchicum, piperazin, digestives, bitters, antacids, purgatives, diuretics, antiseptics, stimulants, depressants, analgesics, etc.

V. Knowledge of conditions of patients includes familiarity with

(a) Personal histories.

(b) Physical conditions: (1) general, (2) local, (3) special examinations, x-rays, tuberculin reactions, Wassermann reactions, complement fixation tests for gonococcal infections, etc.

VI. Accuracy of judgment in making diagnoses depends upon knowledge of the nature and varieties of arthritis, and upon knowledge of patients' conditions; also upon indefinable qualities possessed in variable degrees by every physician for judging and weighing the assembled data skillfully. It depends upon considerations mentioned under I, II and V.

VII. Art in prescribing appropriate remedies includes all the foregoing main considerations.



It necessitates adequate understanding of the nature and the degree of the defects that are producing the lesions. It demands knowledge of the physiologic action of remedies and skill in selecting the various (1) kinds, (2) combinations, (3) alternations, (4) dosages, (5) frequencies of administration, and (6) duration of applications of such remedies to fit the needs of each individual case. These latter six topics relating to the art of prescribing appropriately depend upon physiologic and biologic principles, and these principles next will be mentioned.

PHYSIOLOGIC AND BIOLOGIC PRINCIPLES UNDERLYING THE USE OF THERAPEUTIC MEASURES AND CONCERNED WITH CONCEPTIONS OF JOINT DISEASES.

Lack of comprehension of these principles and failures in applying them are defects that seem to be among the commonest causes contributing to failures in treatment.

These principles are encountered always whether therapeutic treatments happen to be surgery, medicine, special diets, vaccines, sera or physical therapy. They are principles relating to the maintenance of health in all living tissues; and living tissues are the ones that are dealt with by physicians.

Practitioners cannot know too much about characteristics and peculiarities of living organs, the tissues they are called upon to restore to healthy activity; yet there is abundant clinical evidence that some of them do not skillfully apply their knowledge of physiology and biology in their practice of medicine. Specific examples will be presented after explanations are given of what are meant by physiologic and biologic methods of experimentation.

*Physiologic methods.* — Roughly speaking, these consist in trying whatever comes to mind and observing what happens. But experiments to be dignified with the definition "physiologic" must originate with those who have knowledge of the important facts of the subject, who exercise good powers of observation, and who show ability also in drawing discriminating inferences from their observations and previously acquired knowledge.

Physiologists take as their starting points in experimentation the observations and inferences of others, and proceed to apply these facts and principles according to their own ideas, personally trying old ways and new modifications, observing, inferring and verifying each experiment for themselves.

Biology may be defined to include both physiology and pharmacology, but in the present connection the word "biologic" will be used with reference to direct reactions of living protoplasts toward various drugs, chemicals, bacterial toxins and physical agents independently of gross structural considerations and of interactions between organs, and also not restricted wholly to effects of drugs, as in pharmacology.

One elementary physiologic experiment will be described in order to utilize its facts and princi-

ples in making clear the defects in examples of faulty administration of remedies that will be cited. The illustration selected is the well-known experiment of stimulating by an electric current a frog's isolated gastrocnemius muscle by applying the electrodes to its enervating sciatic nerve.

The response of the muscle can be very accurately and graphically recorded upon the smoked surface of a revolving drum, and the electrical stimuli also can be regulated precisely and varied conveniently, consequently the correctness of the inferences which may be drawn in this instance are beyond question of doubt. This, unfortunately, is not always the case with administrations of remedies to patients. The general methods and principles are the same, however, whether the subjects are lower animals or persons, and advantage is taken of the animal experiment to illustrate principles that should govern practice with patients.

By varying the strengths of the stimulating current it is found that there are some stimuli which produce no contractions, others that cause slight responses, and others that produce maximum muscular shortenings. Beyond this definite fixed point stronger stimuli fail to elicit greater responses in any selected nerve-muscle preparation. Yet it is observed there may be variations among different frogs in the strength of stimuli required to produce these various characteristic effects.

The rate of stimulation can also be shown to have an important influence upon muscular responses. A single stimulation producing a maximum response will produce still greater contraction of the muscle if stimuli are repeated very quickly at regular intervals, as can be seen in tetanic contractions.

If stimulation is continued sufficiently long at a rapid rate the tetanic contractions diminish and ultimately the muscle relaxes completely, as it becomes fatigued from the long-continued treatment. In human subjects it is possible to demonstrate that completely fatigued muscles after a period of rest contract as strongly as ever; but that if stimulation is continued after complete fatigue has supervened the rest period necessary for recovery is very greatly prolonged.

To summarize: In muscle tissue it can be graphically shown by experiment that dosages, alternations, frequencies and durations of application of electrical stimuli have important influences upon muscle tissue responses. Furthermore, physiologists are able to demonstrate conclusively with other modifications of these laboratory experiments important influences of different kinds and combinations of drugs, variations in temperature, mechanical stimulation, etc.

These variable responses of tissues are the important details in administration of remedies it is desired to call attention to; how the same treatments may be efficiently or inefficiently carried out according as these matters of dosage, rates, etc., are, or are not, observed and correctly

prescribed. These elementary details of prescribing are conveniently illustrated in the following common defects which are so frequently observed in practice.

#### COMMON EXAMPLES OF DEFECTIVE ADMINISTRATIONS OF REMEDIES.

They may be arranged in physiological or clinical groups. Each one covers the same ground in a different manner, and for clearness they are reviewed although they have been stated just previously.

##### Physiologic grouping:

A. Defective diagnoses that lead to the use of wrong kinds of therapeutic agents, and the use of wrong kinds of agents from unskillful selections when diagnoses are correct.

B. Too frequent administrations of the proper kinds of remedies.

C. Too prolonged administration of the proper kinds of remedies.

D. Too large doses of the proper kinds of remedies.

E. Unwise combinations and alternations of treatments.

##### Clinical grouping:

F. Defects in surgical measures; orthopedic appliances; diets; drugs; vaccines, serum and organ therapy; physical therapy; general hygienic measures.

Examples will be taken rather indiscriminately from both groups, and suggestions regarding the ways greater successes in treatment may be attained will be deferred until all selected examples have been cited.

A. That wrong diagnoses are made frequently will be admitted readily by every one, especially during the early stages of arthritic disease when there are great difficulties in differentiating tubercular lesions sometimes from atypical pyogenic or gonococcal ones, and vice versa; or in telling the beginning stages of gout, atrophic arthritis and hypertrophic types from infectious processes. Each under certain circumstances may present the appearance of slight peri-articular swelling, somewhat restricted joint motion, slight pain on movement, very mild local inflammatory signs of increased surface temperature, and possibly slight serous effusion into the joint cavity. Diagnoses under such conditions have to await further developments, more characteristic signs or symptoms or special tests of specific character like tuberculin reactions before they can be made positively.

B and C. Too frequent or too prolonged administrations are commonly observed with hydrotherapeutic and thermal measures.

Bakings of joints not infrequently produce pleasant and beneficial reactions at first, and consequently sometimes are persisted with until the patients, or the doctor, discover that no real progress is being made despite temporary benumbing and limbering effects following each repetition.

Joint tissues cannot show their physiologic

state as readily as frog's muscle does in a physiologic experiment, yet presumably they likewise become fatigued and injured by too frequent and strong stimulations after long periods of time just as muscles do in experiments; and because the evil effects of too prolonged bakings are not easily recognisable, such treatments seem likely to become contributing causes of future troubles rather than cures of present ones, unless they are discontinued after the first few trials and their administrations are more carefully regulated.

Hydrotherapy is open to similar criticisms of too frequent and too long administrations. Patients feel exhilarated after their first baths and wish to repeat them too frequently; but there are less dangers of long-continued treatment with hydrotherapy because of the decidedly disagreeable reactions which occur after them when they do not agree, and which even at times result in collapse of patients during the baths.

These are faults of physicians who prescribe such measures and fail to follow effects of the administrations closely enough. Hydrotherapy is one of the most efficient and rational of physiologic methods. It must be accompanied, however, by very careful supervision of each individual, because average dosages and durations that may be safely used have not been determined as satisfactorily for physical agents as with drugs.

Every practitioner probably has observed with his chronic cases that some drugs lose their efficiency if they are administered too long, and that some articles of diet, if continued, are not tolerated well and become repulsive although at first they were enjoyed. At other times that electricity, massage, medical gymnastics and mechanico-therapy are followed by undesirable reactions if persevered with. Each agent must be prescribed in the right way in order to secure the best results, and the particular defects just mentioned all can be classified as ones of too frequent or too long administrations.

D. Over-dosage is relatively infrequently seen with common drug treatments, probably because their actions are better understood and their importance realized from long use. But with comparatively new remedies whose chemical natures are unknown there still are examples of over-dosage as seen in the rapid flaring up and further unexpected development of quiescent tubercular processes after the use of tuberculin. X-ray burns illustrate what powerful and poorly understood influences physical agents sometimes exert, and furnish another illustration of over-dosage. By an over-dose is meant an amount of therapeutic agent which is administered at one time that is excessive and upsetting to the patient's state of health existing at that time.

E. Unwise combinations and alternations of treatments seem to be among important common defects observed clinically, because all chronic patients are inclined to demand too many remedies. They insist upon use of remedies too incessantly because of the mental unrest they exhibit when discouraged at the apparently

serious outlook ahead of them; so that they desire to try every possible means of quickly regaining health.

Particularly this is the case when the causes for joint lesions lie in common-place defects in personal hygiene that are overlooked by physician and patient. Sometimes under such conditions health gradually becomes poorer, and there are steady losses in weight and appetite. Slight unrecognized defects in digestive functions if continued long enough in turn lead to contributions of mildly irritating substances in unusual quantities to the blood stream. Under such conditions quantities of these vascular irritants may be sufficient to produce a very slowly developing and frequently only slightly painful peri-arthritis of extremely obscure origin from patients' viewpoints. The urines of such cases show increased proportions of the products of intestinal bacterial activity, demonstrating that absorption of such substances is taking place to an unusual degree.

Patients with obscure, insidiously developing joint lesions are likely to wander from one physician to another wearing out their joints and themselves, trying as many combinations and varieties of remedies as time allows them to do before they become crippled.

For these faults physicians are not necessarily responsible, but they sometimes do not recognize the delicate balance of health of such worn-out individuals; and when several possible sources for the arthritic lesions exist in one patient, physicians not infrequently are too vigorous in their methods of attack.

For example, in a person who has developing arthritis, and whose health has been failing, and who, moreover, presents perhaps merely suspicious conditions in teeth, tonsils, urethra and alimentary tract, there should not be simultaneous attack upon all these possible contributing sources. Such types of cases are not uncommon, and rest in bed should be prescribed first if possible. Then various contributing foci should be treated in turn cautiously, while watching the state of the health and resistance.

Treatments should be instituted when patients show indications of recovering from their depleted conditions as evidenced in their better feelings and brighter, improved appearances. If they are subjected to additional strains of operative measures, such as tonsillectomies, extraction of teeth, curettages, etc., while their resistances are low, these corrective measures may be causes for further upsetting of healthy balances, and of increasing lengths of time of convalescences unnecessarily.

Convalescence might be shortened rather than lengthened if preliminary rest in bed and attention to personal hygiene were instituted for a short time at the outset until a little reserve vitality had been gained. This reserve could be used against additional strains upon the health enforced by surgical measures and etherization.

Defects in administration of treatments of this

sort occur in large crowded hospitals where patients are kept a short time, and where, owing to these circumstances, attempts are made to economize time by doing as much as possible for them in the brief period they remain.

F. Defects of surgical skill include failures in correcting anatomic and physiologic abnormalities; also failures of adequately understanding biologic laws which govern the integrity of joint tissues. Biologic defects will be considered because the important requisites of orthopedic surgery, knowledge of anatomy and mechanics governing joint functions generally are more fully appreciated.

Good surgeons skillfully operate upon defective articulations without destroying their important anatomic relations. They correct deformities, remove pathologic tissue when necessary, and in a workmanlike way repair as far as possible visible defects that are present, leaving joints serviceable from a mechanical point of view.

However, the invisible biologic processes going on within joint tissue cells, which slowly produce the gross lesions that surgeons are called upon to treat, do not seem yet to be appreciated sufficiently by some operators.

The reasons why some operations fail which are neatly and dexterously done with proper regard for anatomic considerations may be traced at times to failures of appreciation of the harmful effects of traumatizing joints with digital examinations; with washing out joint cavities with strong solutions of alcohol, carbolic acid, tincture of iodine; by formalin and glycerine injections; by cauterizations with heat, etc.

Orthopedic surgeons recognize the importance of avoiding unusual mechanical irritations from rough bony spurs, or irregularities in bony contours that result sometimes from operative interference; but some of them seem not yet to have the profound respect which surgeons who perform abdominal operations have for chemical irritants that react harmfully upon living tissue cells.

In an abdominal operation great care is taken to prevent the delicate tissues from drying, becoming chilled, or traumatized by handling, or injured by too hot applications or by too strong chemical ones. Normal saline solution is the one commonly used in abdominal surgery, and it seems that orthopedic surgeons who deal with equally delicate synovial structures should exercise similar care and avoid measures that of themselves are likely to produce necrosis or inflammation of the synovium.

Such strong applications and injections can lower joint resistances without eradicating microorganisms in the deeper strata of joint capsules, and instead of being curative they may prolong convalescence. Theoretically at least they may be the causes of septic results seen in some extremely carefully conducted operations.

Such sepsis can be explained best by a lowering of tissue resistances without complete eradication of bacteria which had previously intrenched themselves in the deeper layers, so that these changes in local conditions permit

the lighting up of bacterial activities which had been held in check by the former resistance of the tissues.

Orthopedic appliances, diets, drugs, vaccines, organ extracts and physical therapies each may be improperly prescribed; but enough examples have been given to show the kinds and prevalence of defective treatments; therefore the ways errors may be avoided and greater successes attained will be next considered.

(To be continued.)

### THE ERADICATION OF TYPHOID FEVER.\*

BY A. J. MCLAUGHLIN, M.D., WASHINGTON, D. C.,

Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service.

THE eradication of typhoid fever is theoretically possible by the ideal execution of two measures:

1. Safe disposal of human excreta.

and safe disposal of the excreta of the entire population were effected. However, the second measure suggested, hand disinfection, would eliminate the carrier from the problem and, due to these two measures, typhoid would become a matter of history.

We know practically, however, that proper disposal of excreta of the entire population is an ideal to which we may aspire, but which is still far from attainment. Instead of being able to destroy the infective agent at its source in feces and urine, we are compelled by expediency to attempt to prevent the entrance of the germs into the human body by making our water, milk and food supplies safe. We know also that much education in personal hygiene is necessary before we may hope that the individual carrier will protect others voluntarily by disinfecting his hands at the proper time.

The prevalence of typhoid fever in the United States is recognized by sanitarians as excessive compared with European countries. This undue

## ANNUAL TYPHOID FEVER DEATH RATE PER 100,000 BY MONTHS. BOSTON, MASS. COMPARED WITH LARGE GERMAN CITIES. POPULATION OF BOSTON 670,000. POPULATION OF BERLIN, HAMBURG, MUNICH, DRESDEN, 4,000,000.

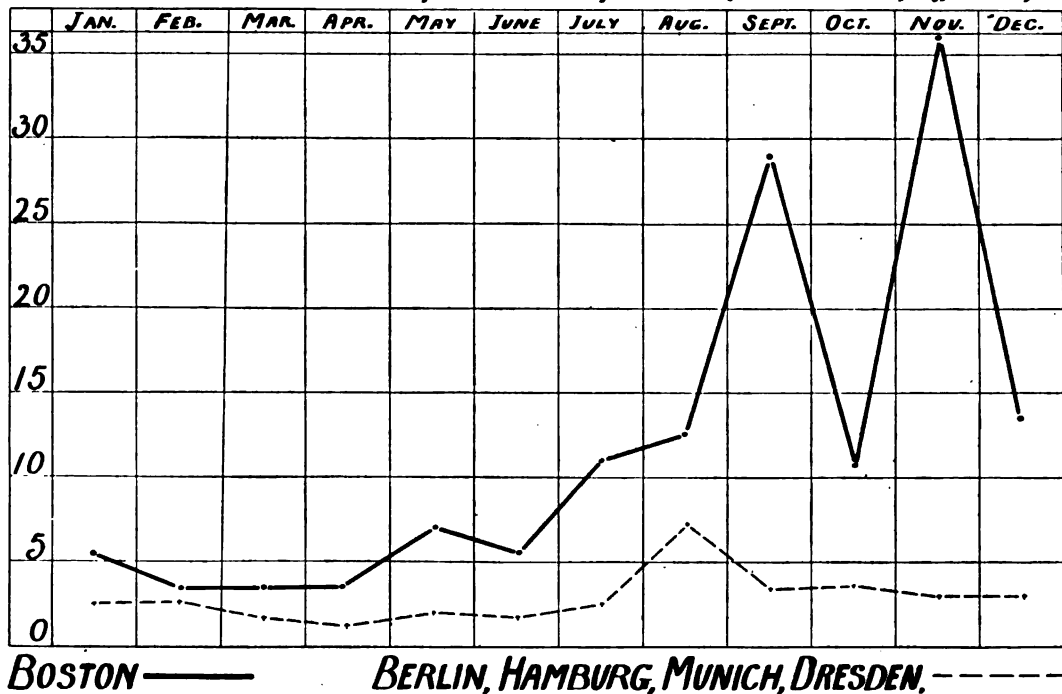


CHART 1.

2. Disinfection of the hands of those who handle the food and drink of others.

Typhoid would probably disappear if proper

prevalence has been characterized as a national disgrace, and this characterization is not unreasonable or unjust in view of the fact that much of the typhoid fever is preventable by one simple measure — the installation of a safe water supply.

\* Read before a joint meeting of the Boston Medical Library and the Suffolk District Medical Society, April 8, 1912.

Charts Nos. 1 and 2 show the seasonal prevalence of typhoid fever in 1910 in Boston compared with Berlin, Hamburg, Munich and Dresden combined, and with London, England. Considering the total annual rate in Boston, the rate from January to June is low and compares

To attain the low rates for typhoid fever which are reported for the northern European cities seems an ideal difficult of accomplishment in America. Yet there is no reason why we should not accomplish it and go even further toward the complete eradication of the disease.

### ANNUAL TYPHOID FEVER DEATH RATE PER 100,000 BY MONTHS, 1910.

BOSTON, MASS. COMPARED WITH LONDON, ENG.

POPULATION OF BOSTON 670,000.—POPULATION OF LONDON 7,200,000.

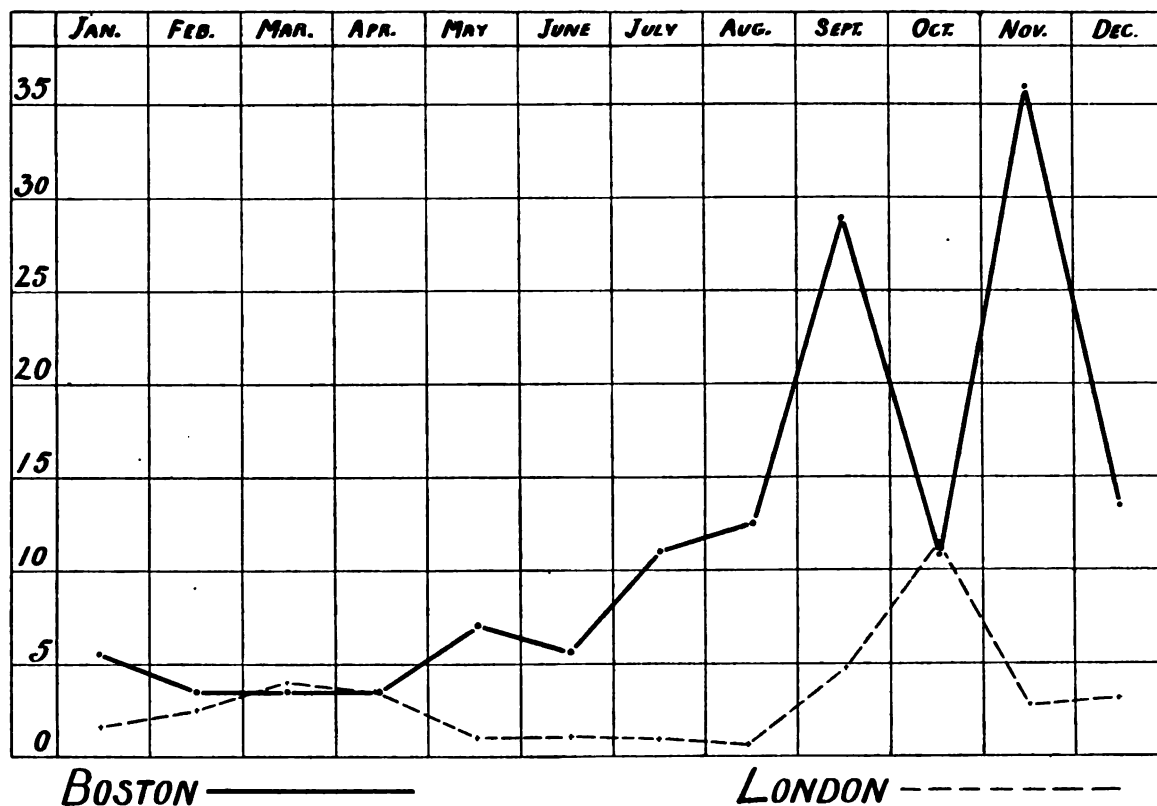


CHART 2.

favorably with the European cities. The rate is high in August and continues upward in September; after falling in October, it rises again to a maximum in November. The greatest contrast between the curves of Boston and the German cities is apparent from August to November.

The curve for the German cities shows a sharp rise to a maximum in August, but it falls in September and remains low in October, November and December. This failure of the August prevalence to increase or continue in September, October and November suggests that in German cities there is either a lesser activity of the factors chiefly responsible for autumn typhoid in American cities or a better control over these factors.

The following tables show the great difference in typhoid fever rates between northern European and American cities.

FIFTEEN LARGE NORTHERN EUROPEAN CITIES COMPARED WITH FIFTEEN LARGEST AMERICAN CITIES.

European cities.	Estimated population.	Typhoid fever death-rates per 100,000.	American cities.	Population, 1910.	Typhoid fever death-rates per 100,000.
Edinburgh,	321,000	1.3	Cincinnati,	363,591	8.8
Munich,	600,000	1.4	Boston,	670,585	11.3
Stockholm,	340,000	1.8	Jersey City,	287,779	11.5
Dresden,	550,000	2.2	New York,	4,766,883	11.6
Antwerp,	316,000	2.3	Newark,	347,469	13.1
Berlin,	2,000,000	2.9	Chicago,	2,185,283	13.7
London,	7,250,000	3.3	St. Louis,	687,029	14.9
Copenhagen,	465,000	3.6	Philadelphia,	1,549,008	17.5
Vienna,	2,000,000	3.8	Cleveland,	560,663	17.9
Liverpool,	750,000	3.9	Buffalo,	423,715	20.0
Belfast,	385,000	3.9	Detroit,	465,766	23.0
Birmingham,	825,000	3.9	Washington,	331,069	23.2
Hamburg,	950,000	4.1	Pittsburg,	533,905	27.8
Lyons,	525,000	4.4	Milwaukee,	373,857	45.7
Paris,	2,750,000	5.6	Minneapolis,	301,408	58.7

The typhoid death-rate for Boston is low compared with American cities, but is considerably higher than rates which prevail in northern European cities. The best of these cities have typhoid death-rates of less than 2 deaths per 100,000.

What are the possible sources of Boston's typhoid over which more efficient control might be exercised: In this connection it will be necessary to consider (1) water, (2) milk, (3) unreported cases, (4) reported cases.

#### WATER.

The water supply of the city of Boston is generally conceded to be safe. An unfiltered surface supply from an inhabited watershed properly controlled and with large capacity for storage may or may not be safe. It may receive pollution diluted to such an extent that its effect is negligible after sufficient storage. The bacterial counts and colon estimations made daily will show the character of the water and its possibilities as a vehicle of infection. The reports of the Boston Public Water Supply to which I had access show bacterial counts but no colon estimations. This is to be regretted, as the latter are more valuable in estimating the sanitary quality of the water. Mere dilution does not kill pathogenic bacteria. We are able to recognize a gross pollution with typhoid by a sharp explosive outbreak. In the case of a dilute pollution the results are not so apparent. It is often difficult to trace any of the cases to water, yet the water supply with a dilute pollution may be responsible for many scattered cases.

The effect of a dilute pollution of a public water supply may be manifested indirectly through the agency of milk. The small number of organisms in the water may be enormously increased through enrichment in the milk.

Typhoid fever outbreaks due to polluted water may occur at any season of the year. The predilection of water-borne epidemics for winter and spring months has been accentuated by epidemiologists because it is easier to fix the guilt upon the polluted water supply in winter when many other factors in typhoid transmission may be excluded. For this reason there is a widespread tendency to regard water-borne typhoid as a manifestation of winter and spring exclusively. This is not strictly true. Contamination of a public water supply depending upon thaws, rains or floods is most likely to occur in winter and spring, although very severe rains and floods may cause disaster in any month of the year. On the other hand, unfiltered surface supplies derived from populous watersheds by impounding streams may be most dangerously polluted during very dry weather. At such times the pollution is more concentrated. The decreased run-off means lessened dilution, and increased consumption in dry weather coupled with a decreased inflow sometimes nullifies the effect of storage in the reservoirs.

In Baltimore, in 1910, a very severe outbreak occurred coincident with a very marked drought.

The run-off from the watershed of the Gunpowder River was reduced to its minimum. The consumption of water was such that with the decreased inflow the storage factor was almost eliminated. Bacteriologic examination showed *b. coli* constantly in .01 ccm. samples. With the advent of heavy rains dilution increased, storage was re-established, the quality of the water improved and the typhoid outbreak ceased.

The following tables show the ratio existing

#### CITIES WITH GOOD OR SAFE WATER SUPPLY.

City.	Approximate population.	TYPHOID DEATHS, 1910. January to June.	July to December.
New York,	4,766,000	183	373
St. Louis,	687,000	32	71
Boston,	670,000	16	63
Detroit,	465,000	26	82
Cincinnati,	365,000	10	22
Newark,	347,000	12	34
Washington,	331,000	27	50
Jersey City,	267,000	5	26
Providence,	224,000	12	28
Rochester,	218,000	9	21
Columbus,	181,000	9	24
Worcester,	145,000	4	19
Syracuse,	137,000	5	33
New Haven,	133,000	6	18
Scranton,	129,000	3	19
Fall River,	129,000	5	13
Paterson,	119,000	5	4
Bridgeport,	102,000	1	4
Albany, N. Y.,	100,000	6	8
Indianapolis, Ind.,	233,000	14	51
Lowell, Mass.,	106,000	6	15
Dayton,	116,000	8	17
Twenty-two large cities,	10,000,000	404	995

#### TYPHOID FEVER.

Deaths per 100,000, January to June,	8.0
Deaths per 100,000, July to December,	19.9

#### CITIES WITH POLLUTED OR DOUBTFUL WATER SUPPLIES.

City.	Approximate population.	TYPHOID FEVER DEATHS, 1910. January to June.	July to December.
Chicago,	2,185,000	101	209
Philadelphia,	1,549,000	147	125
Cleveland,	560,000	43	58
Pittsburgh,	533,000	69	80
Buffalo,	425,000	39	48
Milwaukee,	373,000	112	60
Minneapolis,	301,000	116	62
Grand Rapids,	112,000	12	19
Niagara Falls,	30,000	14	16
Cohoes,	25,000	13	6
Saginaw,	50,000	3	8
Bay City,	45,000	3	7
Twelve cities,	6,200,000	672	698

#### TYPHOID FEVER.

Death-rate per 100,000, January to June,	21.6
Death-rate per 100,000, July to December,	22.5

#### RECAPITULATION.

Cities.	Aggregate population.	Character of water supply.	ANNUAL TYPHOID FEVER DEATH-RATE, 1910.	
			January to June.	July to December.
Four largest German cities,	4,000,000	Safe.	1.9	3.8
Twenty-two large American cities,	10,000,000	Safe or very good.	8.0	19.9
Twelve American cities,	6,200,000	Contaminated or doubtful.	21.6	22.5



between winter and summer typhoid. The variation in this ratio seems to bear a distinct relation to the character of the water supply.

From a close study of the seasonal prevalence of typhoid fever in a large number of cities it is evident that provided the public water supply is safe, the rate from January to June should be less than half the rate from July to December.

In a single year this ratio may be disturbed by a milk outbreak. If a long period of years be observed, this ratio will usually be apparent in view of the fact that winter and spring milk epidemics are unlikely to occur consistently each year for a period of years.

In American cities which have safe water supplies, the rate from July to December will often be more than twice the rate from January to June, probably because of poor control of patients, carriers and milk.

Pollution of surface water supplies may exist for very short periods. Bacteriologic examination should be made daily at least. The monthly averages of bacterial counts may be misleading and fail to show transient pollutions. Bacterial counts alone are not sufficient as an index of the sanitary quality of a water supply. A low bacterial count does not necessarily mean a safe water unless coupled with absence of *b. coli*.

I have no intention of conveying the impression that the Boston public water supply is a dangerous supply. I have attempted simply to call attention to certain possibilities which attend the use of unfiltered surface supplies. Compared with the water supplies of other American cities, the Boston supply must be classed as very good. To say that it is absolutely safe is quite another matter.

In looking over Boston statistics there is nothing to suggest water-borne infection. In the past four years the annual typhoid death-rates per hundred thousand for Boston have been as follows by half years:

Year.	January to June.	July to December.
1907,	7.2	14.
1908,	31.6	17.2
1909,	8.	21.
1910,	4.8	18.8

The rate for the first six months of the year indicates if low that water played no considerable part. The only high rate in the first half of the year was in 1908, and upon investigation this was found to be due to a well-defined milk outbreak.

#### MILK.

Milk plays a part in explaining the higher American rates for typhoid fever because of the difference in amounts consumed and methods of handling. Americans use more milk as a beverage than Europeans, and in Europe the practice of boiling or heating is almost universal, partly for sanitary reasons, but more often to prevent souring of the milk in the absence of ice. It seems that some of the northern European cities have practically eliminated milk and water and reached the minimum point in residual typhoid, which is just short of complete eradication.

To render milk safe is a more difficult problem in America than in Europe. The Americans use large amounts of milk, and many have a deep-rooted dislike to boiled milk. The heating of milk to the degree necessary to kill pathogenic organisms and its prompt refrigeration seems the only safeguard which can be applied to milk without materially changing its character, which will afford protection to the consumer. There are too many ways in which contamination may reach milk between the cow and the consumer to make milk inspection effective as a safeguard under existing conditions. We hear constantly of the efficiency of inspection, and of preventing further infection by measures taken at the farm, but this is always accomplished after the milk epidemic has occurred. Ideal dairy farms, ideal handling in transit and delivery must and should be striven for, but in the meantime the people should be protected by the means at hand. Inasmuch as we cannot depend as yet upon the individual to protect himself, we must protect him by heating his milk for him. The milk supply should be considered as a public utility and should be controlled by municipal authority as efficiently as the water supply for sanitary reasons. This control necessitates pasteurization or heating for prompt protection of the public. The heating of milk as a prophylactic measure in the campaign against typhoid is comparable to the filtration or treatment of a water supply exposed to pollution.

If we could secure adequate control over the excreta of the entire population, water filtration would be unnecessary. How many years or centuries will pass before we could hope to attain such perfection? In the meantime, we must protect ourselves by purification of public water supplies whenever necessary.

The sanitary dairy farm and herd with clean handling from the farm to the consumer is an ideal to attain which we should use our best efforts, but pending the accomplishment of this herculean and seemingly impossible task, we must take measures to protect ourselves against the contamination which we seem powerless to prevent. We very wisely availed ourselves of antiseptics until asepsis was possible, and even now we do not hesitate to make use of both when necessary or expedient. If the ideal could be attained, neither filtration of water nor heating of milk would be necessary. Unfortunately, the attainment of the ideal of pure milk is as far removed as the ideal of perfect disposal of all human excrement. Even if these ideals are attainable, it is a question whether other measures are not more economical and equally effective.

Without waiting for sewage purification measures to protect a water supply, the wise health officer advocates immediate protection to the public by filtration or treatment of the endangered or polluted supply. In the same way it is the part of wisdom to heat or boil milk pending the accomplishment of an ideal, which its most ardent advocates admit to be far distant.

In regard to control of milk, Boston has progressed as far toward a solution of this problem as

any other large city, yet even here much remains to be done. Milk should be considered a public utility, analogous to the public water supply. A great deal of wasted effort is expended in attempting to enforce cleanliness in the persons and shops of thousands of small dealers. This in itself would require an army of men. How much simpler if all milk was purveyed from a few conveniently placed depots, which in turn were supplied from one central station. Until conditions upon the farms approach considerably nearer the ideal than at present the milk should be properly pasteurized, bottled and sealed at the central station before distribution.

The argument has been advanced against pasteurization that it encourages dirty milk. This is not a valid argument. The same regulations aimed at obtaining ideal conditions at the source and in handling should remain in force. Again, in this respect pasteurization is comparable to filtration of water. The installation of a filter plant does not justify the unrestrained pollution of the raw water with sewage. The filter plant does not make sewage treatment unnecessary; neither does pasteurization make cleanliness and care in producing and handling milk unnecessary.

The splendid work done by the Boston Health Department in the effort to secure better milk has produced very marked results, not only in regard to refrigeration and cleanliness, but in the matter of pasteurization—about 50% of Boston's supply in 1910 was pasteurized. In addition, recently the department has demonstrated the practical feasibility of pasteurization in sealed containers.

In 1910 the Boston Board of Health put into effect a regulation which would have eliminated one of the most dangerous factors in the milk problem, viz., the sale of milk in bulk by small dealers in dirty shops.

Unfortunately the Supreme Court of Massachusetts recently decided that the Boston Board of Health exceeded its authority in this regulation and "that the statute under which the Board assumed to act is not broad enough to give them this authority."

In view of this decision it would seem necessary for the Boston Board of Health to take steps to secure by act of legislature the authority which it seems to lack.

#### TYPHOID FEVER IN NAPLES.

To accentuate what may be accomplished in large cities by these two measures alone, installation of a safe water supply and the elimination of the milk factor, the typhoid history of Naples is interesting.

In Naples the conditions which usually are considered favorable to the spread of typhoid fever by contact and flies are present in an exaggerated degree.

The bulk of the poor people who inhabit the "bassi" or lowest floor of the large tenements have no closet facilities whatever. Fecal matter is deposited in the streets, alleys and along the seawall, and only the activity of the street

sweepers (*spazzini*) makes it possible for pedestrians to avoid actual contact. Urination is practiced in all the streets, and many of the urinals are simply "V" shaped inserts in walls, and the urine trickles over the sidewalk to the gutter. In the dark ill-ventilated "bassi" the people are crowded together so that close personal contact is unavoidable.

The conditions for spread of typhoid fever by contact are ideal; add to this the fact that flies in the poor quarters are very numerous, we have every condition necessary for a high prevalence of typhoid fever. In 1909 the typhoid death-rate per 100,000 was 9, and in 1908 only 6.5. Why with such ideal conditions for contact infection and fly typhoid has Naples such a low rate? Naples has two things which go far to explain this low rate. The Naples' water supply is safe, and, moreover, available free to all the poor people. Consequently, there is no incentive to use dangerous shallow well water. The other fact which has a bearing on the low typhoid fever rate is that there is no milk problem in Naples. The poor do not use cows' milk, and many of them use no milk at all. The goats' milk used is milked from the goat into the receptacle of the consumer, and in addition it is usually boiled before using to prevent spoiling, as the purchase of ice is beyond the means of the poor. With the class sufficiently prosperous to have cows' milk, the same is true; the cow is driven through the streets, milked at the door, and the boiling of the milk in lieu of refrigeration is almost universal. Water and milk being eliminated, naturally explosive outbreaks are out of the question. Contact infection and flies have to depend on a chain of foci due entirely to bad personal hygiene.

#### "CONTACT" TYPHOID.

After the elimination of water as a factor in the transmission of typhoid fever, and after having established an efficient control over milk, the most difficult part of the problem presents itself in what has been called "residual" typhoid. By far the greatest factor in this residual typhoid is the more or less direct transference of typhoid fever germs from the fresh feces or urine of one person to the alimentary canal of another. This transference is assisted in certain months by flies, but is consistently effected by the agency of fingers and food during every month in the year.

This contact factor has made possible the persistence of typhoid since prehistoric times when such things as public water supplies and milk problems did not exist. It depends for its activity upon the close association of individuals with primitive ideas and habits in matters of eating and disposal of excreta.

The savage or primitive man transmitted typhoid by "contact," and the nearer we get to savage or primitive habits of life, the greater the percentage of contact cases, and the greater the difficulty of eradicating residual typhoid.

The fly as a factor in typhoid fever transmission probably plays a bigger part in the rural districts than in the large well-sewered cities. Measures

for the inauguration of a campaign for the eradication of typhoid fever. The character of the population, the high standard of intelligence, the atmosphere of culture which surrounds Boston, all make for a successful campaign.

The typhoid rates in surrounding cities and in the state of Massachusetts are low, so that imported cases do not present a great problem. The water supply is very good and probably water plays little part in typhoid fever transmission in Boston.

Boston has progressed much farther in attempting to control the public milk supply than the average American city. In view of these facts, Boston is peculiarly well adapted for the experiment suggested, namely, the eradication of typhoid fever.

Even if this ideal result is not immediately possible, reduction may be effected almost at once.

Typhoid fever must be considered in the same category as Asiatic cholera. After we have made our water and milk supplies safe, the fight against typhoid fever, to be successful, must be made with the same vigor and along the same lines as a successful campaign against cholera. There is very little excuse for even such low rates for typhoid as prevail in Boston. The difficulty of getting rid of the last vestiges of infection when the rate is below 2 deaths per 100,000 is conceded, but with a rate above 10 there is little excuse for failure to wage an active eradication campaign against typhoid as a dangerous contagious disease.

In spite of Boston's advanced position in the control of milk, much remains to be done. With a wider use of the laboratory a greater control is possible over those who handle food and drink in public places. These are matters of public hygiene, and no matter how perfect official control over water and milk supplies may be, the citizen is still exposed to infection from individuals who infect his food and drink in restaurants and hotels, on steamboats or trains. Some official control is possible under the license system of those who handle food and drink in public places, but the greatest hope for reducing the menace from this source lies in education of the individual in personal hygiene.

The campaign of education should be systematically planned and should press into service every agency available. The public press, the clergymen, settlement workers and the school teachers should take a prominent part in disseminating the necessary information. The gospel preached by these lay workers should be simple, and need not involve more than two primary facts:

1. Contamination of food or drink by careless fingers may be equivalent to homicide.

2. Such dire results can be avoided by careful cleansing of hands and finger nails after using the toilet and before handling food and drink.

This simple instruction should be general. More intensive and complicated instruction should be given only by professional nurses and

physicians where actual cases of illness exist in the proper care and disinfection of human excreta.

Such a campaign of education would not only reduce the typhoid fever prevalence, but would be followed by a decrease in bacillary dysentery and in the group of entities commonly classified as diarrhea and "enteritis of children."

## THE CONTROL OF TYPHOID FEVER.\*

BY MARK W. RICHARDSON, M.D., BOSTON,  
*Secretary, Massachusetts State Board of Health.*

I AM glad to say that many of the methods advised by Dr. McLaughlin for the control of typhoid fever have either been adopted in this state or are about to be introduced by the State Board of Health.

In the first place, as to the education of the public in relation to this very important disease: Last year, following a conference with a committee of the Massachusetts Association of Boards of Health, I compiled a circular of information concerning typhoid fever which was, in the first instance, sent to all the physicians registered within the commonwealth. This circular gave in compact form all the more important information concerning the etiology of typhoid fever, its manner of spread, and the precautions necessary to keep the infection within prescribed limits. The duties of physicians and householders, furthermore, were emphasized, especially the necessity for prompt reporting of the cases to the local boards of health and by the local boards of health to the State Board of Health. The methods of diagnosis were explained, and the facilities available in the laboratories of the State Board of Health were brought to the attention of physicians and laymen. This circular, moreover, is being sent to all cases of typhoid fever as they are reported to the State Board of Health by local boards of health.

More recently the State Board of Health has sent out to the boards of health of the cities and towns, bile outfits for the detection of the typhoid bacillus in the blood and in the various excretions of the body, such as the stools, urines and sputum. The use of this outfit will enable physicians to make a diagnosis of typhoid fever at a stage much earlier than is now the case with the so-called Widal outfit. It is hoped, furthermore, that these outfits will be used in the convalescence of typhoid fever patients to determine when the stools and urines have become free from typhoid bacillus and when, therefore, the patient can be considered a safe individual to be given full liberty of action.

This question of typhoid carriers is a most pressing one, and its importance must be faced at the earliest opportunity. If we are to be consistent, we must not allow typhoid convalescents to go abroad freely unless we make one or more examinations of their excretions to determine whether or not the typhoid bacillus still persists

\* Read in discussion of the paper by Dr. A. J. McLaughlin (see p. 764) at a joint meeting of the Boston Medical Library and the Suffolk District Medical Society, April 3, 1912.

in these excretions, for a typhoid carrier is a constant menace to the community, especially if his occupation is such as to bring him in contact with food supplies.

Many typhoid epidemics have been traced in recent years to infection of milk, for example, by unclean typhoid carriers. These bile outfits, then, make it possible for physicians to determine without expense, and with very little trouble, whether or not their convalescent typhoids are or are not carriers of typhoid infection.

This question of typhoid carriers is important in another respect, and that is as to the disposition of human excreta in those localities where modern plumbing and modern sewerage are unavailable.

The condition of privies in the country is well known to be, in most instances, bad, and the transfer from these privies by flies or otherwise of infectious material to cow's milk has occurred, undoubtedly, many times. The State Board of Health is sending now to all dairies examined by its dairy inspector a reprint entitled "The Sanitary Privy," written by Prof. C. W. Stiles and Dr. L. L. Lumsden, of the United States Public Health and Marine-Hospital Service. This pamphlet is published by the United States Department of Agriculture and contains all the essential information concerning the dangers of the ordinary privy. Furthermore, it gives in detail simple plans for the construction of a properly equipped privy.

It is hoped, of course, that dairymen will take advantage of these plans and replace their defective and worn-out outbuildings with constructions simple but so arranged that the transfer of fecal material from them to food supplies may be, to a great extent, prevented.

Another function which the State Board of Health is about to assume is that of the production of specific material for preventive inoculation against typhoid fever. This power was given to the State Board of Health by the present legislature, and it is hoped that this anti-typhoid vaccine, so-called, will be available for distribution before the coming summer.

This brings up, naturally, the subject of anti-typhoid inoculation, which has been introduced to a considerable extent in this state. Two years ago, I recommended the introduction into the training school for nurses at the Massachusetts General Hospital of this practice of typhoid inoculation, and Dr. Lesley H. Spooner has continued the work during the past two years. The success has been such that at present more than twenty-five training schools have adopted this practice and about one thousand nurses have been inoculated. This experience, of course, does not compare in point of numbers with that of the United States Army, but in civil life it is, I think, unique.

I was asked to discuss this evening more especially the relation of the State Board of Health to the fly problem. This is a matter, of course, which interests the State Board of Health, and one which the board deems to be of great impor-

tance, but from the nature of things in this state, it is a problem with which the State Board cannot very well come in close contact.

That flies may be important factors in the spread of certain communicable diseases must be admitted. This statement holds true whether we speak of the common house fly which carries infectious material more or less mechanically, or whether we refer to certain varieties of biting flies which may transfer, directly or indirectly, disease-producing organisms from the blood of one individual to another. It behooves, therefore, all those agencies and individuals who are interested, or whose duty it is to conserve public health, to see to it that, as far as may be, the activities of these insects be restricted to the greatest extent possible.

Successful control of the house fly, however, means prevention of multiplication, and this means control of local conditions in its most extreme sense. Success will depend, therefore, rather upon the efforts of the individual householder, and the influence of public health authorities will vary in direct proportion to the power they hold and execute over the individual citizen.

In Massachusetts, the idea of local self-government is strongly entrenched, and the only authority, practically, which may even attempt to invade the castle of the citizen is the local board of health, and this board must, indeed, be convinced that a situation is a serious one before it will interfere with the citizen's almost inalienable right to be as dirty as he pleases.

The favorite breeding places for flies are animal excreta, garbage and other decomposing masses of filth, substances, the care and disposal of which are subject to regulation by local health authorities. The thoroughness, however, with which such regulations are carried out varies within wide limits and depends largely upon the character of the population in the several communities, for, in the smaller towns at least, boards of health are elected by the citizens, and in such localities health regulations cannot rise far above the general average intelligence of the population. In many instances, what was good enough for the grandfathers is thought good enough for the present generation, and new-fangled ideas about flies do not propagate so rapidly as the fly himself. We see, therefore, that conditions favoring the breeding of flies come largely under the head of local nuisances and are amenable to action by local authorities only.

The State Board of Health has, to be sure, the power to investigate all conditions inimical to health and it can and does make recommendations for action to local boards of health. Through its state inspectors of health the State Board of Health keeps in quite close touch with local conditions, and through advisory action does accomplish a good deal. Local nuisances are being reported constantly to the State Board of Health because of the failure to act of local authorities. A little pressure from the State Board or the realization on the part of the local board that the State Board is behind them is,

in most instances, all that is necessary to bring about an abatement of a local nuisance. Indeed, it sometimes happens that a local board of health in taking action excuses itself to its fellow-citizens by claiming that it had no alternative but to obey the suggestion of the State Board.

In one kind of nuisances, the State Board of Health does have control, and that is in relation to the so-called offensive trades, such as those of slaughtering, rendering, etc., according to Section 109 of Chapter 75 of the Revised Laws, which reads as follows:

"SECTION 109. If any buildings or premises are so occupied or used, the State Board of Health shall, upon application, appoint a time and place for hearing the parties and, after due notice thereof to the party against whom the application is made, and a hearing, may, if in its judgment the public health, comfort or convenience so require, order any person to desist from further carrying on said trades or occupations in such buildings or premises; and whoever thereafter continues so to occupy or use such buildings or premises shall forfeit not more than two hundred dollars for every month of such occupancy and use, and in like proportion for a shorter time."

The education of the individual citizen is, after all, in this as in so many other situations, our main hope of salvation.

What can the State Board of Health do in this regard? The annual reports of the Board, of course, reach a very small and generally a professional circle of readers. The *Monthly Bulletin* offers an excellent medium for the diffusion of health knowledge, but here again the circulation is small; but it is hoped to increase the influence of this publication by sending advance press sheets each month to about one hundred daily and weekly newspapers of the state. Public health articles are readily reprinted by such journals. Indirectly, we have accomplished something, I am sure, through our relation to the dairymen of the state, whom we are advising constantly as to the conditions under which they produce milk, the proper handling and placing of manure, the location and care of privies and the disposition of refuse in general. These facts are being hammered into the farmer constantly and are bound in the end to produce results.

Nearly all the fly agitation has had for its object the elimination of the ordinary house fly. I cannot help feeling, however, that in the future we must pay more attention to the various biting flies, which are much more numerous than one suspects, until he begins to look for them. We have only just begun to realize that our domestic animals, although apparently in perfect health, may be infested with a considerable variety of parasites, and what the relation of these parasites may be to human disease is largely unknown. Some of these are known to be transferred to other animals and to human beings by biting insects, and further study will, doubtless, bring out increased evidence as to such an interrelation between human and animal affections. Indeed, I believe that the time has about arrived for a

systematic survey of at least special localities and possibly even of the whole state, to determine the varieties and localization of biting insects of all kinds. Beyond a doubt, such a survey, combined with investigations of the incidence of human and animal disease, would reveal, in some instances at least, conditions of cause and effect absolutely unsuspected at this time.

## THE IMPORTANCE OF MILK STATIONS IN REDUCING CITY INFANT MORTALITY.\*

BY ARTHUR E. HOWARD, M.D., BOSTON,

Junior Assistant Visiting Physician, Children's Hospital; Medical Director, Milk and Baby Hygiene Association.

THE significance, causes and methods of controlling infant mortality have attracted but little attention until comparatively recently. This in spite of the fact that each year there are in the United States nearly twice as many deaths occurring during the first year of life as there are deaths from tuberculosis. The average mortality rate in Boston for babies under one year of age during the past five years has been about 128 per 1,000 births. It is becoming generally recognized that the two chief factors which are the underlying cause of this high infant death-rate are ignorance and poverty. These factors, which are apparently universally accompanied by a third factor, excessively large families among those least fitted financially or intellectually to provide for them, give rise to the conditions of overcrowding, unsanitary living conditions, insufficient and improper food, improper and unintelligent care and clothing of the baby. It is also true that the mothers in their desire to increase the family earnings are inclined to continue in some occupation too near childbirth and resume work too soon after, with consequent bad results to both mother and child, as well as neglect of breast feeding. As a result of these combined conditions the infant from birth or even before is predisposed to disease by a lowered vitality. The two classes of diseases aside from still births and congenital defects which in infancy stand out most prominently in the mortality record are the respiratory and gastro-intestinal diseases.

Gastro-intestinal disease as a prominent factor in infant mortality has, I believe, been the longest recognized and received the most attention. This attention has been principally in the form of an attempt to supply babies with a clean and properly modified milk. Dirty milk and improperly modified milk are undoubtedly important factors in the development of gastro-intestinal disorders, but there is a growing conviction on the part of investigators of this subject that excessive heat and humidity, poor ventilation, overcrowding and unhygienic conditions of living are also important factors. As regards the respiratory diseases, these factors just enumerated are even more generally recognized as directly predisposing causes. Although too few to bear definite conclusions, the results of the investiga-

\* Read before the New England Pediatric Society, Boston, Jan. 27, 1912.

tions of the last 94 deaths among babies that had been under supervision by the Milk and Baby Hygiene Association are at least suggestive in relation to this question. The summary of the home conditions, as regards ventilation, overcrowding and sanitation in these cases, of which 30 were due to respiratory, 29 to gastro-intestinal and 35 to other diseases, was as follows:

In the 30 cases of death due to respiratory diseases, the home conditions could be summarized: Good, 9; bad, 18; not obtained, 3.

In the gastro-intestinal: Good, 14; bad, 13; not obtained, 2.

In the 35 cases due to other causes than respiratory and gastro-intestinal diseases: Good, 30; bad, 4; not obtained, 1.

As these investigations were made in different sections of the city by ten different nurses who had no idea of the use to which their information was to be put, it seems to me significant that the preponderance of bad home conditions in the case of deaths due to respiratory diseases was in the ratio of 2 to 1; about equal in the gastro-intestinal diseases; while in the deaths due to other causes, the balance swings in favor of good home conditions in the very decided ratio of 7½ to 1. Having briefly considered what appear to be the more important factors in the production of the two most fatal classes of diseases in infancy, let us consider means of eliminating them.

In the larger cities, provision is made for the care of the sick baby through children's hospitals and children's departments and wards in general hospitals. That this provision cannot materially affect the infant mortality rate is evident in the first place when we consider, in Boston, for example, how comparatively few hospital beds are available for the accommodation of Boston's infant population, which under one year of age alone numbers about 15,500.

Then, again, in the case of infant mortality the hospital is treating symptoms instead of eliminating the etiological factors. For example, a baby is treated at a hospital for respiratory disease, cured and returned to the same environment and conditions which were responsible for the sickness. By these remarks do not let me be understood to underestimate the need and importance of hospital work. The point which I wish to emphasize is that the purely clinical work of the hospital is not directed toward the elimination of the underlying causes of infant mortality. The hospital has an entirely different field—the treatment of the sick baby—surely a necessary function and one which reduces by good treatment the mortality among infants already ill.

The conclusion reached by at least some leaders in tuberculosis work is that the hope for future control and elimination of the white plague lies not in institutions for the care of those already affected, but in striking at the root of the evil,—poor home and living conditions. When we consider the extreme susceptibility of the infant to environment and care, is it not reasonable to

suppose that in reducing infant mortality we must also turn to preventive measures?

In this connection let us consider the work of the milk station which is essentially preventive in character, using for illustration the methods employed by the Boston Milk and Baby Hygiene Association.

It is the business of the milk station to supervise the feeding, care and home conditions of the well baby. It is not concerned with the treatment of the sick baby except to see that at the earliest symptoms of illness it is placed in the care of a private or hospital physician. By their location in the centers of congested districts the milk stations are in close touch with the points of highest infant mortality. The milk supplied the babies under supervision is, as far as possible, the mother's breast milk. In the Boston stations between one third and one half of the more than 1,200 babies now being cared for are either partially or entirely breast-fed, and by supervision the period of breast feeding is materially lengthened according to the experience of the station nurses and conference physicians. This conclusion is in accord with the results of observations made by Dr. Herman Swartz, of New York, on 1,500 nursing babies. For example, Dr. Swartz found that in one group of 40 mothers who had nursed a previous baby 0 months, under supervision 10 nursed a subsequent baby 8 months; 9, 6 months; 1, 5 months; 4, 4 months; 9, 3 months, and 4, 2 months. When we consider the difference in the mortality rate of breast-fed and bottle-fed babies, the value of such results needs no argument. By supplying at cost clean whole milk for nursing mothers and older children and different formulas of modified milk suitable for the average feeding case, the milk station accomplishes two desirable purposes. A good and suitable food is provided for the baby, and as the cost of the modified milk, 12 cents a quart, is 8 cents cheaper than even the hospital rate for laboratory milk, it puts this milk within the means of many self-respecting families who would not otherwise be able to obtain proper milk without charitable aid.

By means of the conferences, held at least once a week in each station, which, as the name suggests, are for well babies, the conference physician, instead of giving his time to telling the mother how often she is to give a certain medicine, or how to care for a case of illness, can give all his attention to instructing the mother along prophylactic lines; how to feed, clothe and bathe the baby properly, care of the milk and nursing bottles in the home, value of fresh air and hygienic living conditions. By this kind of teaching the conference physician himself gains in knowledge and experience along prophylactic lines. That he is deficient in prophylactic training is, I believe, the experience of every physician when first attempting this kind of work. Regardless of the clinical experience he may have had, he at first finds himself far from fluent in talking with the mothers about preventive measures.

By removing the need of supervision of the



well baby at the hospital clinic the clinic physicians are able to give more and better attention to the sick baby, just as the conference physician by this division of labor is given a better opportunity to care for the well baby. By means of the conference and proper co-operation between the conference physician and the private physician, an opportunity is afforded to reach that most neglected of all classes, the so-called middle class, the class unable to afford a good physician all the time and not sufficiently poor to take advantage of the medical provision made by city and charitable organizations.

By means of mothers' clubs, girls' clubs and illustrated lectures on hygienic subjects for the fathers the milk station provides further instruction in proper home and living conditions.

In the majority of cases some representative of the family comes to the station each morning for the milk, so that the nurse by proper questioning is able to keep in daily touch with the baby's general condition. Then, by giving the rest of the day to visits to the homes, the station nurse even more directly and practically reaches the underlying factors of infant mortality.

The ten nurses at present on the staff of the Milk and Baby Hygiene Association are making each month from 2,500 to 3,000 visits to the homes of babies under supervision. During these visits the nurse has an opportunity through practical demonstration with the materials at the mother's disposal to show her how she may best carry out the instruction given by the conference physician. By actually bathing the baby or preparing its food the nurse gives the mother a much better conception of proper and hygienic methods than any talks or printed instructions can possibly convey. In looking after the baby's interest the nurse also exerts an influence on conditions bearing on the health of the other members of the family. The nurse through observations made in the home has an opportunity to learn local customs and methods which directly predispose to certain kinds of disease. For example, one nurse who found that a number of her babies were developing pneumonia learned that the mothers were in the habit of giving the baby a hot bath and at once wrapping it up still wet in a blanket, covering it up with additional clothes and leaving it to take a nap under these conditions. From this Turkish bath atmosphere the baby was taken out into the cold air of a poorly heated room to be dressed. Individual talks and practical demonstrations on proper bathing methods by this nurse materially reduced the number of cases of pneumonia in this neighborhood.

As may well be imagined from the difficulty every physician has experienced in having a sick baby brought back to the office or out-patient department at the requested time, a good attendance of well babies at conference would be impossible except through the efforts and influence of the station nurses.

By securing, through co-operative means, the supervision of infants at an early age, the milk

stations are safeguarding the period of highest infant mortality, as of the deaths in Boston among babies under one year of age, about 34% occur during the first month and over 50% in the first three months of life.

The general physical condition and the progress made by babies under supervision is remarkable, notwithstanding the congested character of the neighborhoods in which they live. The mothers constantly give evidence of having grasped and applied the general principles taught by the conference physicians and station nurses.

Settlement workers in the districts covered by the milk stations have testified that there is a marked improvement in the physical condition of their kindergarten children since the establishment of the milk stations.

Physicians who have been in touch with children's out-patient departments for a period of years state that the number of cases of markedly neglected illness is constantly decreasing.

These desirable results are being accomplished through the gradual education of the public, not only by the milk stations, but by other organizations, along hygiene and medical lines.

The work of the milk station is essentially educational. Each mother and home gaining through the influence of the milk stations a better understanding of the general principles of hygienic living and the proper care of the baby becomes a nucleus for the further spread of this knowledge.

The milk stations by their location, the conservation of breast feeding, the supplying of clean and properly modified milk at a reasonable price, supervising the feeding and care of the baby, improving living conditions of the baby and other members of the family and by educating the mothers, girls and fathers along prophylactic lines, are, I believe, meeting and influencing the chief factors and conditions responsible for a high rate of city infant mortality.

I am becoming more and more convinced, however, that the supervision of the infant for a limited period, no matter how effectively managed, is far from satisfactory. It is only when by proper co-operation with pre-natal work, settlements and school physicians and nurses there is established a continuous chain of supervision from the beginning of the pre-natal period through the school age that the best results will be obtained. When the milk station becomes but a link in this chain intelligently co-operating for clinical purposes with private and hospital physicians, the importance of the milk station in reducing city infant mortality will be even greater.

## HYPODERMIC INJECTIONS OF IRON AND ARSENIC IN SECONDARY ANEMIA.

BY JOHN H. MURDER, JR., M.D., PHILADELPHIA, PA.

HYPODERMIC injections of iron in the treatment of anemia secondary to various pathological processes have been commonly employed by

Italian physicians for some years. Arsenic, in the treatment of numerous diseases, has also been extensively given hypodermically, chiefly by the Germans. The latter have of recent years been employing with success the combination of the two drugs in the treatment of the more severe forms of anemia, as pernicious anemia and chlorosis. In this country the hypodermic employment of iron or arsenic has also become quite customary in the treatment of severe anemias of pulmonary tuberculosis. Peters,<sup>1</sup> Barlow and Cunningham,<sup>2</sup> Bullock and Peters<sup>3</sup> and others have reported favorably upon the hypodermic injections of iron or arsenic in the treatment of this condition. Morse<sup>4</sup> has employed iron subcutaneously with good effects in the treatment of the anemias of children.

The employment of iron and arsenic together seems to have been largely neglected. Of interest here is a recent paper of Seiler,<sup>5</sup> who finds in the treatment of chlorosis that arsenic alone had but little effect. Iron caused a fairly good result. With the combination of the two, however, given subcutaneously, the results were amazingly good.

Treatments with iron and arsenic hypodermically have been confined largely to sanatoria and hospitals. However, the employment of these drugs in office and dispensary work is most simple and very satisfactory. They may be employed in anemia secondary to some gastric or intestinal condition, secondary to some mild pulmonary or cardiac condition, and they are of particular value when given to the anemic, weak, run-down women seen so frequently in office and dispensary work, not only on account of their action upon the anemia, but also given for their stimulating properties.

The author has had the opportunity to observe the general condition and to make repeated blood counts on a series of fourteen cases who received, hypodermically, injections of iron and arsenic.

Early in the treatment of the anemia patients, some of the various Italian preparations of organic salts of iron were imported and used for a time, but the results from their use were not satisfactory. The difficulty and expense of securing these preparations led to the use of a solution of ferric citrate prepared locally. This was used in various doses, but on the whole the results were not such as would indicate a continuation of the treatment. The ferric citrate in doses suf-

ficiently large to give good results was found to be so irritating, and the injection so painful, that the patients for the most part rebelled against the treatment. Also in a few cases there were attacks of vertigo, fainting and in some cases vomiting after the injection. Then the present formula was secured and so far has given most satisfactory results. The iron is used in conjunction with arsenic and sodium glycerophosphate. Of the iron and arsenic, of each .06 gm., and of the sodium glycerophosphate, .10 gm., are dissolved in 1 ccm. of distilled water. This makes a slightly alkaline, reddish tinged solution, clear, without sediment. It is placed in small glass ampoules, sterilized and when sealed ready for instant use. Each ampoule contains a sufficient quantity for one dose. The few minutes necessary to sterilize the syringe and needle are all the time required to give the injection. It may be given in any muscle, but in the treatment of ambulatory cases the most satisfactory site of injection is directly into the muscles of the thigh or into the deltoid muscle. The solution is so free from irritating qualities that it has not been found necessary to give the injections deep into the gluteal or lumbar muscles. The treatments as a rule were given twice a week, though in some cases as often as daily for a short time. In several cases the injections were only given once a week. With the iron and arsenic, treatment was usually given for the local condition causing the anemia. In some of the cases treatment of the local condition had been carried on for some time without any definite improvement. Upon the addition of the iron and arsenic, the results were usually most pronounced. The increase of hemoglobin and erythrocytes brought with it freedom from the troublesome symptoms of before. The amelioration of the symptoms and improvement in the primary trouble usually resulted in such improvement that in most cases the treatment could not be carried as long as was desirable. In most of the cases the treatment was simply the correction of dietetic and hygienic faults.

In the fourteen cases treated in this manner, only one failed to respond promptly. This patient, a young married woman, was found later to be pregnant and the treatment was discontinued. The results of the treatment, the duration and frequency of the administration in the several cases are as follows:

	B.		A.		D.	F.
	Hb.	R.B.C.	Hb.	R.B.C.		
Case 1:	80	3,420,000	85	4,510,000	75 days.	Once a week.
Case 2:	55	2,780,000	85	4,200,000	66 "	Thrice a week.
Case 3:	70	3,730,000	80	4,290,000	35 "	Thrice a week.
Case 4:	75	3,980,000	95	4,800,000	90 "	Every other day.
Case 5:	75	3,600,000	75	4,100,000	120 "	Once a week.
Case 6:	75	3,310,000	85	4,480,000	88 "	Once a week.
Case 7:	80	3,190,000	85	4,280,000	18 "	Twice a week.
Case 8:	70	4,000,000	85	4,510,000	42 "	Twice a week.
Case 9:	70	3,690,000	88	4,660,000	38 "	Every other day.
Case 10:	75	4,500,000	90	4,600,000	21 "	Twice a week.
Case 11:	65	3,160,000	95	5,010,000	108 "	Thrice a week.
Case 12:	80	3,850,000	90	4,200,000	40 "	Every other day.
Case 13:	75	4,150,000	95	4,600,000	48 "	Twice a week.
Case 14:	70	2,890,000	No improvement after treatment.			

B: Before first administration.

A: After last injection.

D: Duration.

F: Frequency of administration.

The author has had the opportunity of studying the blood in a case of pernicious anemia. Before the treatment began the hemoglobin was 19 and the erythrocytes 950,000 per mm. Two months' treatment raised the hemoglobin to 68 and the erythrocytes to 3,490,000 per mm.

#### CONCLUSIONS.

1. The intramuscular injection of iron and arsenic in organic compound is entirely practical in office and dispensary work.
2. It is a valuable adjuvant to the treatment of anemia secondary to some relative mild condition.
3. It affords a method of giving the drugs in which the exact amount taken is accurately known.
4. It does away with the annoying complications frequently resulting from the administration of the drugs by mouth.

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### TREATMENT OF FRACTURE OF THE CLAVICLE.

BY FRANK E. PECKHAM, M.D., PROVIDENCE, R. I.

If one will consult all the textbooks printed on surgery, and all the articles written on fractures of the clavicle, it will be observed that the principles upon which treatment is founded have not varied much, if any, since the earliest writings. The specific dressings or mechanical appliances have varied, but in general the idea has been to pull the humerus backward by (usually) an adhesive strap encircling the humerus, of necessity from the level of the axilla downward, and the long end of this strapping extending around the back toward the opposite shoulder. The forearm is flexed on the humerus and placed across the chest, also towards the opposite shoulder, and the arm held in this position by adhesive plaster, Velpeau bandage or some form of dressing which happened to be preferred by the individual surgeon. Usually, also, the arm is supported or actually pushed upward by these various dressings in order to prevent sagging of the affected side. Now each fracture is a mechanical problem pure and simple and must be solved in accordance with its own peculiar mechanical difficulties, and fractures even in the same bone and in the same place may call for variations in their *mechanical* treatment at different times.

In the treatment as quoted above, it must be apparent to the most casual observer that the mechanical pull backward from a point on the humerus below the level of the axilla, by its mechanical leverage pulls the *arm* backward and does *not* to any very marked extent pull the *shoulder itself* backward. On the other hand, with the dressing arranged in this way as usually described by the textbooks and writers in general,

I have observed many cases as they presented themselves for x-ray photographs, and almost without exception, although the humerus and arm from the axilla downward was pulled *backwards*, the *shoulder itself* was decidedly sloping *forwards* and the fracture was *unreduced*. The common argument of the general practitioner when his attention was called to this fact was that the position of the fragments was not of very much importance because they all said that they had never experienced any trouble in such fractures, more especially in children. However, trouble does occur occasionally, and if every case of fractured clavicle treated in this manner should be examined, particularly where the x-ray showed the fragments slightly riding by, it would be found that a slight, and in some cases a marked, asymmetry existed; namely, the measurements



FIG. 1.

of the distance from the sterno-clavicular end to the tip of the shoulder would show some shortening on the affected side. In growing children this must have some effect in the general symmetry. The shoulder on the affected side would probably be a little lower than its mate and there might result some degree of lateral curvature of the spine.

One such case came under my personal observation some years ago. A fractured clavicle had been treated in the above-quoted routine way and union had taken place with the fragments very markedly riding by. As a result, there was a marked lateral curvature of the spine with the low shoulder on the affected side. Measurements showed a shortening of the clavicle, and the x-ray picture showed the actual condition. I operated this case, chiseling the bones apart, pulling them out to length, and allowing union to take place in the corrected position. Treatment for lateral curvature was then instituted with a very favor-

able result. This case added to previous observations made it evident that such routine treatment was not very good. Later, the brace elaborated by Dr. Fayette Taylor, of New York, was brought to my notice, and his son, Dr. Henry Ling Taylor, very kindly had made for me a set of these braces.

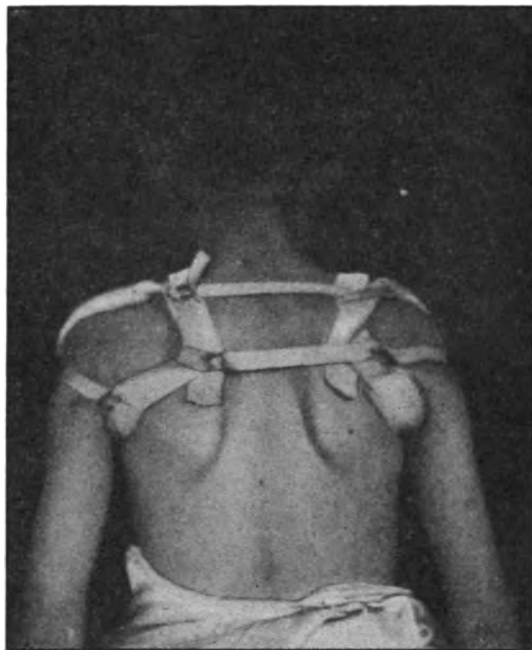


FIG. 2.

The mechanical principle of this brace was to hold the shoulder backward by means of a metallic arm extending across the chest in front from shoulder to shoulder and strapped to a pad between the scapulæ behind. With this mechanism, it was perfectly possible to hold the shoulders back with a pull sufficiently strong to pull the broken clavicle completely out to its proper length, thus leaving the fragments accurately end to end. By this method the arms are allowed to hang by the side without any bandaging or without any pull on the humerus. This brace, however, in my hands, was very difficult to keep properly adjusted. This was accomplished, however, by seeing the patient every day, at least until there was sufficient union to stick the fragments together. In this way, I began to get perfect results, the x-ray pictures showing the fragments really reduced, and the measurements of the clavicle under such conditions showed them to be of equal length. The slipping of the brace, and the daily attention which was necessary, led me to arrange a mechanical contrivance which accomplished the same thing, and it is this method which I wish now to present.

A circular shoulder band is made of webbing padded with cotton, and on the anterior part of the shoulder is stiffened with three pieces of whalebone placed crosswise (see Fig. 1). Posteriorly (see Fig. 2) an arrangement of buckles and straps enables the shoulder to be pulled as strongly as may be necessary to pull the clavicle

absolutely out to length. In this way, the arms are allowed to swing naturally unless for any reason abduction needs to be prevented on the affected side, when an adhesive strap extending across the chest in front around the humerus and across the back is entirely sufficient. In this way, the rule governing all fractures in any location whatsoever is efficiently carried out, i. e., the bone (clavicle) is pulled out to length and the fragments are held in apposition (end to end) while union takes place.

It is a well-known fact that the more accurately the fragments are held in apposition, the less will be the amount of callus, or, rather, the callus will be distributed exactly between the ends, and thus the so-called wad of callus is obviated. This wad of callus is the thing which is so objectionable in such fractures in women, who desire to avoid such deformity from the fact that it is objectionable when in evening dress. By the above-described method, this is completely avoided. If on account of the marked obliquity of the fracture when the shoulders are strongly pulled backwards, and the ends of the fragments project forward, they may be held in place by adjusting a pad of gauze over the fracture and making hard pressure by means of an adhesive plaster strap as shown in Fig. 3. The shoulder straps may tend in some cases to ride forward on the shoulder. If so, they must be held out to the extreme tip of the shoulder by a narrow piece of webbing buckled over the outward aspect of the humerus (see Fig. 2). On the other hand, this same shoulder strap may tend to slip outward over the shoulder, when it must be held forward by a strap of webbing buckled across the chest as seen



FIG. 3.

in Fig. 1. I have been treating all such cases by this method for several years and so far there has been no case which could not be held perfectly and results thus far have given perfect clavicles.

## THE PREVENTION OF OCCUPATIONAL DISEASES.

BY E. LINENTHAL, M.D.,

*State Inspector of Health, Boston.*

THE term "occupational diseases" is not a well-defined one. Broadly speaking, morbid conditions resulting from occupations can be divided into two general groups.

1. Morbid states resulting from certain industrial processes giving rise to specific diseases, such, for instance, as lead, mercury, arsenic and phosphorous poisoning among workers in industries where these chemicals or their compounds are used. In this group of cases the casual connection between the provocative agents and the morbid changes in the body tissues of the worker is clear and unmistakable.

2. Morbid states resulting from unsanitary conditions under which workers are employed. Such conditions need not give rise to specific diseases, but may so reduce the resisting power of the individual as to make him fall an easy prey to any contagion with which he may happen to come in contact. The general debility or tuberculosis in a person employed in a sweat shop, for instance, where the sanitary conditions are bad, where for ten hours or more of the working day he is shut up in an unclean, poorly lighted, poorly ventilated room, would be a case in this group. Unlike the first group, the industrial conditions here act as predisposing causes rather than the immediate causes of the disease.

The boundary line between these two groups is not a sharp one. There are many borderland cases. Workers in dusty trades, for instance, are subject to diseases of the bronchi and lungs. It is not clear whether the dust here is the immediate cause or the predisposing cause of the diseases. The question as to whether pneumonia or tuberculosis in a steel grinder, for instance, should be regarded as specific industrial diseases is not clear, unless we distinguish between the diseases of the lungs and bronchi directly due to the dust, such as pneumoconiosis, and those cases where we get a superimposed infection with the pneumococcus, tubercle bacillus or any other pathogenic micro-organism.

The clear definition as to what constitutes occupational diseases can only come in question in connection with workmen's compensation acts where the workman is entitled to indemnity for diseases arising from his work. From the standpoint of preventive medicine a clear definition as to what diseases should be called occupational diseases is not essential. Preventive medicine concerns itself equally with the ill effects upon the health of workers, whether these effects result from certain industrial poisons or from certain entirely avoidable unsanitary conditions. In fact, from the standpoint of the conservation of the health of the worker, the alleviation of the conditions which do not cause specific diseases, but which have as their inevitable consequence the diminished bodily resistance with greatly increased susceptibility to diseases of all kinds,

is of even greater importance than the dealing with the causes of specific industrial diseases; more important, because it affects greater numbers. The number of workers employed in trades recognized as dangerous is but a small fraction of the vast number who are employed in the enormous variety of industries which in themselves are not injurious to health, but which undermine the health of the operatives by the entirely avoidable unsanitary conditions under which they work.

Considering the vast importance of the effect of industrial processes and labor conditions upon the health of operatives, the paucity of statistical data we have on the subject is extremely deplorable. There are a great number of industries in Massachusetts, for instance, in which the workers are exposed to lead and its compounds, yet we have no means of knowing the actual number of cases of lead poisoning that occur annually in the state. The same is true of all the other organic and inorganic poisons that are used more or less extensively in our industries. Our knowledge is still less as to the effect on the morbidity and mortality of the industrial community from unsanitary conditions, the effects of which are more remote than is the case of industrial poisons. There are no available data on the subject.

The causes for our lack of data are obvious. Physicians are not required to report any cases of occupational diseases to the central health authority, and no knowledge is therefore available as to the number of those cases that occur. Moreover, the death certificates give only the immediate cause of death, with no indication as to the primary cause. A lead worker, for instance, may die from cerebral hemorrhage resulting from the arteriosclerosis of chronic lead poisoning. The cause of death will be given as cerebral hemorrhage. Nothing will appear on the death certificate to indicate the fundamental trouble — chronic lead poisoning. Furthermore, not sufficient attention is given in our morbidity and mortality reports to the occupation of the individual at the time the disease was contracted. The little data available are often misleading. A worker in a dust trade may begin to feel the ill effects of the dust-laden air to which he is exposed and take up some other form of work. Shortly afterwards a definite diagnosis of tuberculosis may be made, the occupation on the records being the one he is engaged in at the time the diagnosis is made, one which could not possibly be responsible for the tubercular condition, while no mention is made as to his previous occupation where the disease originated. Moreover, not sufficient attention is given in medical schools to the effect of occupation on health. In taking histories of cases the student is trained to inquire into the life habits of the patient, as to the use of tea, coffee, alcohol, tobacco, etc. These, to be sure, are all very important, but not nearly as important, particularly among wage-earners, as is the nature of the work in which the patient is engaged, and the conditions under which he works. It is true that the student is taught to inquire as to the occupation of the patient, but this is re-

corded in such a general way as to be of little value either in the diagnosis of the particular case in question, or in the collection of data from which inferences might be drawn as to the relation of certain occupations to health.

Such general designation as "laborer," "mill operator," "metal worker," etc., is of no value in indicating the work done; even the more specific statements "worker in rubber factory," "shoe factory," and the like, do not mean much, since there are a variety of processes in these industries, some of which are of greater significance from the standpoint of the health of the employees than others.

While, of course, it cannot be expected that the physician should be acquainted with the infinite complexity of industrial processes, it seems to me that it would be of great value for him to have a general knowledge of the so-called "dangerous trades" and of the particular dangers to the health of the operatives that lurk in some of the processes. The comparatively small amount of time that would be required on the part of the medical student, say in his fourth year, to acquire this knowledge, — perhaps half a dozen lectures or so, — would be fully compensated by his greater efficiency in handling his cases in hospital clinics or in private practice. This lack of knowledge on the part of the physician about industrial processes was strongly brought to my attention the other day when I was reading case histories in a book recently published by one of the best clinical men in the city. The author gave the history of a young man employed in a rubber factory, who was suffering from a train of symptoms and physical signs which was diagnosed as being due to chronic lead poisoning. The source of the lead poisoning was supposed to be drinking water which passed through a lead pipe. Now, as a matter of fact, the mere mention that the patient worked in a rubber factory was enough to suggest the possibility of lead poisoning, for the salts of lead are used to a greater or less extent in the composition of rubber, and plumbism is not an uncommon occurrence among rubber workers. Of a series of one hundred and sixty-two cases of plumbism that I had occasion to look up in one of our large hospitals, 11% were among the workers in rubber factories. The work in which this man was engaged was by far the more probable source of the lead poisoning.

For the eradication of any social evil, two factors are essential; first, the recognition of the evil and the causes which produce it, and second, the adequate methods necessary to eradicate it. While it is generally recognized that certain industrial processes are injurious to health and that unsanitary conditions in workshops and factories are prejudicial to the well-being of operatives, very little had been done to make systematic investigations into industrial conditions.

To the Massachusetts Legislatures of 1904-5-6 belongs the credit of having taken the first step in this country to obtain definite scientific data on the subject by their authorizing the State Board of Health to make an investigation into

the sanitary conditions of factories, workshops and mercantile establishments. This work was carried on under the able direction of the late Dr. Charles Harrington, and his report to the Legislature of 1907 is the first document that appeared in this country which deals in a systematic manner with the effects upon the health of operatives in the various industries in Massachusetts.

Following the report of Dr. Harrington, the Legislature of 1907 enacted a law whereby the state was divided into health districts and a physician was appointed in each district as state inspector of health. The original number of districts was fifteen, but it has since been changed to fourteen. Each state inspector of health is under that law required to inform himself respecting the sanitary condition of his district and concerning all influences that are or may be dangerous to public health; he is to gather all information possible concerning the prevalence of tuberculosis and other diseases dangerous to the public health within his district, shall disseminate knowledge as to the best methods of preventing the spread of such diseases, and shall take such steps as, after consultation with the State Board of Health and the local health authorities, shall be deemed advisable for their eradication; he shall inform himself concerning the health of all minors employed in factories within his district, and whenever he may deem it advisable or necessary, he shall call the ill health or physical unfitness of any minor to the attention of his or her parents or employers and of the State Board of Health.

Besides these general duties and advisory powers to the local boards of health, the state inspectors of health were given the enforcement of all laws relating to the health of persons employed in industrial establishments. Massachusetts was thus the first state in the Union to recognize that sanitary inspection of factories is essentially a health matter, and should be under the charge of the central health authority of the state.

Perhaps one reason for the scarcity of our knowledge of industrial conditions and their effects upon health is that formerly all inspection was done by persons entirely unfamiliar with health matters. Such inspection must necessarily become a mere matter of routine carried on in a perfunctory manner little calculated to bring about effective changes or to increase our knowledge of the effects of industry on health. To quote Dr. Wm. C. Hanson, assistant to the secretary of the State Board of Health, who is directing the work of the state inspectors of health:

"Medical men alone are in a position to make the best use of facts obtained concerning the sanitary conditions of the premises where men and women work; to study the possible injurious effects of certain processes upon the health of the persons engaged therein; to inspect devices designed to protect the employees against the injurious and dangerous substances, as well as to



detect pathological signs or symptoms of certain poisons and dust and fumes incident to some occupations; to inquire as to the health of the employees; to make physical examination of minors, and, whenever possible, of adults, engaged in trades deemed to be injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene."

The work of the state inspectors of health for the last five years, under the direction of Dr. Hanson, has already resulted in the accumulation of a vast amount of material on industrial hygiene and on factory sanitation. Thoroughly taken up with his work, Dr. Hanson has succeeded in imparting his enthusiasm in this comparatively new field of preventive medicine to the men whose work he directs. Not only have vast changes been brought about in the industrial establishments of the state, but extensive investigations have been made of a great variety of industries and processes in which workers are exposed to influences dangerous to health. Special investigations have thus been made of a number of trades in which workers are exposed to dusts, to irritating and poisonous fumes, to extreme degrees of temperature and humidity, and to general unsanitary working conditions. The industries thus studied include the textile industry; the pearl industry; felt hat industry; mattress and curled hair industry; the shoe industry; the rubber industry; the making of jewelry; metal polishing and buffing; a group of industries in which workers are exposed to lead poisoning, such as printing, stereotyping, monotyping and linotyping, electrotyping, paint manufacturing, potteries and manufacturing of tile; foundries; laundries; cigar factories; candy factories; and the clothing industry.

The last mentioned industry, the clothing industry, is a good illustration of the effect upon the health of operatives of a trade which cannot in itself be regarded as dangerous. Although the majority of operatives engaged in this trade are Jews, who are supposed to possess a relative immunity to tuberculosis, yet — and this is the general impression of the physicians practicing among them — their number afflicted with tuberculosis is on the increase. The unsanitary conditions of the workshops are undoubtedly responsible for many of these tubercular cases. Most of the shops in this trade are located in old neglected buildings where proper sanitation cannot possibly be maintained. The workrooms are unclean, the dirty walls and ceilings appear not to have received a coat of whitewash for years, and the windows are often so dusty as to be almost opaque. The unsanitary conditions of the buildings are made worse by the slovenly and uncleanly habits of the employees as well as of their employers. Dust, rags and other refuse are allowed to accumulate in the corners of the shops and under the tables. The habit of spitting on the floor was evident in almost every shop visited.

To appreciate fully the significance of this disgusting and dangerous habit, one need but visit

the shop in operation. Various parts of the garments are made by different operators. When the operator has finished the part allotted to him, he throws it on the floor. The garment is then picked up by the foreman, who passes it to the next operator. The dry as well as the moist sputum may thus be very easily circulated among the operators by the contaminated clothing. When the shop is swept, as happens on rare occasions, the sweeping is usually dry and helps to stir the dust. Is it surprising that people continually exposed to such conditions become tubercular?

A vast amount of valuable data on industrial hygiene has thus been accumulated by the state inspectors of health, and our knowledge of industrial processes and conditions is increasing. This is the first essential step in prevention. We must learn where the danger lurks before we can take any steps to check its ill effects. But there are other measures which would be effective in reducing the baneful effects of many of our present industrial conditions, some of which, although eminently practical, we have not yet put in operation. In common with many other fields of endeavor for social betterment our accomplishments fall far short of our knowledge. The following may be indicated among the preventive measures.

Occupational diseases, as many of them as practical, should be put on the list of reportable diseases. The central health authority would thus quickly learn of any case that may occur, the establishment from which such a case was reported would be visited and proper steps could be taken to prevent the occurrence of other cases.

The employees in certain occupations in which they are exposed to poisonous dusts and fumes should be examined periodically so that symptoms of poisoning may be early detected. Young persons who on account of their age are more susceptible to dangerous influences should be excluded from certain occupations; women likewise should be excluded from certain trades. Massachusetts is thus far the only state in the Union to prohibit the employment of minors in trades and processes designated by the State Board of Health as injurious to health. This legislation, of inestimable value in protecting the health of young persons, was the direct result of the investigations and observations of the state inspectors of health and of their reports thereon to the State Board of Health.

Adequate legislation regulating sanitary conditions in industrial establishments, prescribing protective appliances for those exposed to dust, to irritating gases and fumes, and to industrial poisons, and the intelligent enforcing of these laws, is of course indispensable in order to maintain conditions compatible with safety to the health of the workers.

But of still greater fundamental importance than any of these above-mentioned measures is the education of both employers and employees. This becomes evident when any number of in-

dustrial establishments are visited. A few examples will suffice.

In many metal polishing establishments where the workers are exposed to metallic and emery dusts, also to cotton dusts from the buffing wheels, employers maintained that dust removal systems are unnecessary, that the dust "is not injurious to health." On the other hand, the employees themselves often showed lack of appreciation of the dangers to which they were exposed and often removed the hoods from properly guarded machines on the pretext that these interfere with the work.

In visiting rubber factories the foremen, managers and superintendents were questioned as to the occurrence of cases of lead poisoning among their workers. No record of cases was obtained. Most of them were unaware that there was any danger of lead poisoning and did not know that such cases ever occurred among rubber workers. And yet cases of lead poisoning are not uncommon in that industry. As I have stated before, of 162 cases of lead poisoning treated in the out-patient department in one of our large hospitals, over 11% were among rubber workers and undoubtedly came from the same factories that were investigated. This discrepancy between the hospital records and information obtained at the factories can be explained by the fact that the working population in rubber factories is shifting. Many workers are taken sick and drop out without any one in the factory knowing anything about them. Inasmuch as a great proportion of the rubber workers are foreigners, — Poles, Italians, etc., — the patients themselves may not understand fully the nature of the trouble for which they are treated.

In several color grinding establishments where lead salts were used no precautions were taken by any of the workers against the lead dust. In one establishment respirators were provided for the men who were exposed to the dusts, but these were not used. In one establishment a man was observed using carbonate of lead in the mixing of paint. An open box of the powder was near him from which he took a scoopful from time to time and threw it into the mixer, where it formed a paste with linseed oil. When all the powder was out of the box he turned it upside down and struck it over the mixer, producing a cloud of fine lead dust which enveloped him. The man stated that he took no precautions of any sort and that while he had been at this work for twenty years he had been sick only once, suffering, as the doctors told him, from lead poisoning. While talking he took out a plug of tobacco from his pocket and carried it to his mouth; his hands were covered with carbonate of lead. He was pale and emaciated and although only forty-five years of age he had marked arteriosclerosis.

One of the most dangerous processes observed was the sand blasting of iron castings. This consists of playing a stream of fine, dry sand by means of compressed air upon the casting to smoothen the surface. During this operation the worker is completely enveloped by clouds of fine, dry

sand. It was stated that the length of time a man can keep at this work is not more than about a year, when he begins to show the effects of it and has to leave, only to be replaced by a new recruit. In one foundry visited a special helmet was provided for this work with a tube whereby the worker is supplied with fresh air, but the man engaged in the process did not use it "as it was too much bother to put it on and take it off."

Intelligent co-operation on the part of the employers and employees with the health authorities is absolutely essential. The employer must learn to realize that the provision of good sanitary conditions is an asset and increases the efficiency of his workers. He should therefore comply with the spirit as well as with the letter of the law, and by a strict workroom discipline see that the workers properly use protective devices. The workman, on the other hand, not only should recognize the dangers to health to which he is exposed at his work, but must learn to utilize to the fullest extent the measures which the law requires for his protection.

The central health authority of the community should be authorized to draw up special regulations for industries in which workers are exposed to poisonous dusts or fumes, with instructions applicable in each particular industry as to the measures necessary to avoid poisoning. Such regulations and instructions should be posted in the workrooms where the particular processes in question are carried on.

To summarize briefly: For the prevention of the ill effects upon health from industrial processes or conditions the following measures should be adopted.

1. To collect complete and accurate data about industrial processes and about conditions under which the various industries are carried on.

2. To obtain more accurate and detailed information relative to occupation on morbidity and mortality records.

3. To instruct the medical student in this important field of preventive medicine by a course of lectures on the more important industrial processes and the diseases to which they give rise.

4. To place the specific industrial diseases on the list of diseases notifiable to the central health authority.

5. To examine periodically all workers in certain industries, these industries to be named by the central health authority.

6. To exclude minors and women from certain industries which are designated by the central health authority as injurious to health.

7. To have adequate laws regulating sanitary conditions and protective devices in industrial establishments, and to have such laws intelligently enforced.

8. To have the central health authority issue regulations for certain dangerous trades with instructions to employers and employees how to guard themselves against the ill effects of their

work, and to have such instructions posted in the workrooms.

9. To carry on an extensive educational campaign both among employers and employees as to the value of protective measures and good sanitary conditions.

### Reports of Societies.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

MEETING OF WEDNESDAY, MARCH 13, 1912.

THE President, DR. L. JAY HAMMOND, in the chair.

DR. W. WAYNE BABCOCK presented a communication upon the

USE OF EMBRYONIC EMULSION AND AUTOLYSATES IN THE TREATMENT OF MALIGNANT TUMORS.

MICROSCOPICAL EXAMINATION OF THE URINE AS AN AID TO CLINICAL DIAGNOSIS.

By DR. A. T. GAILLARD.

The chief aim of the paper is to call attention to neglected points in diagnosis and prognosis most important to differentiate epithelia always present in diseased conditions.

Frequent impossibility of making early diagnosis by clinical symptoms, especially in nephritis.

Short description of epithelia found in urine.

Observations on changes from acute to chronic in parenchymatous and interstitial nephritis.

Prognostic indications derived from sizes of casts.

Constitution of patient determined by study of pus corpuscles.

Malignant disease of kidneys, bladder and prostate gland.

Protest against perfunctory urinary examinations.

Inconsistent and unscientific methods employed by insurance companies.

#### VISCERAL ORTHOPEDICS.

By DR. GEORGE O. JARVIS.

RESEARCHES WITH CERTAIN DUCTLESS AND SEXUAL GLANDS AND REPORT OF CASES TREATED WITH DERIVATIVES THEREOF.

DR. FRANK R. STARKEY: During the last four years I have used a combined extract obtained from the pituitary body, ovaries of intact sheep four years old, and the testicles of roosters one and one-half years old. This is produced by first removing the glands under the strictest aseptic precautions and removing therefrom all fibrous and interlobular matter so far as possible, using only the parenchymatous substance. This is reduced to a fine paste, macerated in chemically pure glycerin for forty-eight hours and filtered. I have used this in 480 cases by intermuscular injection, and in not a single case has there been an unpleasant reaction or local irritation. Conditions treated include typhoid fever, pneumonia, influenza, scarlet fever, tuberculosis, melancholia, hysteria, epilepsy, chorea, paralysis agitans, locomotor ataxia, constipation, rheumatism, arthritis deformans, impotency, amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia, neuroses of the unmarried, old age. Brief reports of twenty-eight cases are submitted from which I think we may safely conclude that this combined extract has a marked stimulating effect on mental, nervous and muscular activity as well as cellular action, metabolism and oxidation in gen-

eral. In the paper details are given of studies conducted with fifty subjects who were observed for one week without treatment and state of metabolism noted from output nitrogen chlorides and sulphates. Then they were subjected to 15 m. solution daily for two weeks. They increased in weight on an average 8 lb. Hemoglobins and reds were increased as were appetite and ability to do mental and physical labor. Sexual power was greatly augmented. All expressed themselves as feeling unusually well at the end of the studies.

TREATMENT OF JOINT DISEASES AND CONDITIONS SIMULATING JOINT DISEASES BY PHYSICAL MANIPULATION.

By DR. LOUIS VON COTZHAUSEN.

### Book Reviews.

*Friends of the Insane, the Soul of Medical Education and Other Essays.* By BAYARD HOLMES, M.D. Cincinnati: The Lancet-Clinic Publishing Company. 1911.

This is a small book of somewhat brief communications on various topics of general, public and medical interest. A subject to which particular attention is given is that of the care and general treatment of the insane. The author evidently feels strongly on this subject, and expresses himself at times somewhat intemperately as to the evils of existing conditions. Certainly the picture is not quite so dark as he draws it. The essays are suggestive and although complete agreement with the deductions may not be expected, the book no doubt will be read with interest.

*A Text-Book of Pathology.* By FRANCIS DELAFIELD, M.D., LL.D., and T. MITCHELL PRUDEN, M.D., LL.D. Ninth edition, with thirteen full-page plates and six hundred and eighty-seven illustrations in the text, in black and colors. New York: William Wood & Co. 1911.

This ninth and latest edition of this standard textbook follows the same plan and purposes as its predecessors. The book, however, has been largely revised. The section on general pathology has been rewritten and expanded, and more attention has been paid to various aspects of pathologic physiology. So far as possible, disease has been regarded as an adaptive process, as one of the diverse manifestations of life and energy, as a sum total of action and reaction between animate organisms and vital forces. Dr. Francis C. Wood has revised the section on malaria, and rewritten the chapters on tumors and on the blood and the hematopoietic organs. The section on "post-mortem examinations and the methods of preserving and examining diseased tissues" has been transferred from the beginning to the end of the volume. Over 40 new illustrations have been added. The work maintains its high excellence and should continue its wide and efficient usefulness.

# THE BOSTON Medical and Surgical Journal.

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## JUSTINIAN, GIBBON AND THE PLAGUE.

IN another column of last week's issue of the JOURNAL we presented in abstract from a German periodical some account of medieval and later epidemics of plague in Vienna. Despite modern discoveries as to its etiology and prophylaxis, the bubonic plague, which throughout recorded history has made terrible periodic visitations upon mankind, remains to-day, perhaps, the most interesting and dramatic of the pestilential scourges of humanity. More, too, than any other disease, it has entered into general literature, for its epidemics have made such profound impression on the popular mind that descriptions of it by lay writers have survived from nearly every age and tongue.

In previous issues of the JOURNAL we have from time to time commented on accounts of the plague by various ancient authors. These accounts have the merit of contemporary observation and atmosphere, but lack in some instances the value of a more sophisticated perspective. Very recent descriptions of ancient epidemics, on the other hand, written in the full truth of modern knowledge, lack something of the romance and awe belonging to a time when pestilences were still regarded as the infliction of a personal and offended Deity. For this reason the description given by Gibbon of the Roman plague which began in 542 and continued to 594 A.D. remains one of the best in history. It was written long enough after the event to be free from contemporary bias, yet early enough to retain the medieval point of view and to escape the modern prosaic attitude of complete understanding.

At the close of the forty-third chapter of his "History of the Decline and Fall of the Roman

Empire," Gibbon undertakes to describe, — as under the same category of half natural, half supernatural prodigious phenomena, — "the comets, the earthquakes and the plague which astonished or afflicted the age of Justinian." After commenting on the celestial and the seismic visitations, he proceeds to give some general account of the origin of pestilences.

"Ethiopia and Egypt have been stigmatized in every age as the original source and seminary of the plague. In a damp, hot, stagnating air, this African fever is generated from the putrefaction of animal substances, and especially from the swarms of locusts, not less destructive to mankind in their death than in their lives."

Next he describes the great epidemic which began in 542 and devastated the Roman Empire for over fifty years. His data are derived chiefly from Procopius, Agathias, Evagrius, Paul Diaconus and other contemporary and medieval writers. The form of the disease in this epidemic seems to have been the classic, bubonic type. Gregory of Tours refers to it as *lues inguinaria*. Gibbon's description is so vivid and yet so temperate as to deserve extensive quotation. It runs as follows:

"The fatal disease which depopulated the earth in the time of Justinian and his successors first appeared in the neighborhood of Pelusium [a city at the northeastern angle of the Delta], between the Serbonian bog [the celebrated *lacus Sirbonis* of classical antiquity, a morass situated between the Isthmus of Suez and the Mediterranean] and the eastern channel of the Nile. From thence, tracing as it were a double path, it spread to the east, over Syria, Persia and the Indies, and penetrated to the west, along the coast of Africa, and over the continent of Europe."

It is interesting that this ancient pandemic followed essentially the same epidemiologic paths as those of subsequent times.

"In the spring of the second year, Constantinople, during three or four months, was visited by the pestilence; and Procopius, who observed its progress and symptoms with the eyes of a physician, has emulated the skill and diligence of Thucydides in the description of the plague of Athens. The infection was sometimes announced by the visions of a distempered fancy, and the victim despaired as soon as he had heard the menace and felt the stroke of an invisible specter. But the greater number, in their beds, in the streets, in their usual occupation, were surprised by a slight fever; so slight, indeed, that neither the pulse nor the color of the patient gave any signs of the approaching danger. The same, the next or the succeeding day, it was declared by the swelling of the glands, particularly those

of the groin, of the arm-pits, and under the ear; and when these buboes or tumors were opened, they were found to contain a *coal* or black substance, of the size of a lentil. If they came to a just swelling and suppuration, the patient was saved by this kind and natural discharge of the morbid humor. But if they continued hard and dry, a mortification quickly ensued, and the fifth day was commonly the term of his life. The fever was often accompanied with lethargy or delirium; the bodies of the sick were covered with black pustules or carbuncles, the symptoms of immediate death; and in the constitutions too feeble to produce an eruption, the vomiting of blood was followed by a mortification of the bowels. To pregnant women the plague was generally mortal; yet one infant was drawn alive from its dead mother, and three mothers survived the loss of their infected fetus. Youth was the most perilous season; and the female sex was less susceptible than the male; but every rank and profession was attacked with indiscriminate rage, and many of those who escaped were deprived of the use of their speech, without being secure from a return of the disorder."

In vigor and terse directness, this passage is a model of clinical description. The phrase "kind and natural discharge of the morbid humor" deserves a place beside the "laudable pus" of our forefathers. In the case of the pregnant woman, version was evidently preferred to post-mortem Cæsarean section. It is noteworthy that several patients were saved by fetal death and miscarriage. As to the immunity conferred by a single non-fatal attack, opinions seem to have differed. Thucydides avers that the infection could be taken only once; but Evagrius and Fabius Paullinus declare that some patients after recovering from a first, succumbed to a second attack. Of the treatment of the disease and the effect of the pestilence upon the people Gibbon writes as follows:

"The physicians of Constantinople were zealous and skillful; but their art was baffled by the various symptoms and pertinacious vehemence of the disease: the same remedies were productive of contrary effects, and the event capriciously disappointed their prognostics of death or recovery. The order of funerals, and the right of sepulchers, were confounded; those who were left without friends or servants lay unburied in the streets, or in their desolate houses; and a magistrate was authorized to collect the promiscuous heaps of dead bodies, to transport them by land or water, and to inter them in deep pits beyond the precincts of the city. Their own danger, and the prospects of public distress, awakened some remorse in the minds of the most vicious of mankind; the confidence of health again revived their passions and habits; but philosophy must disdain the observation of Procopius, that the lives of such

men were guarded by the peculiar favor of fortune or providence. He forgot, or perhaps he secretly recollected, that the plague had touched the person of Justinian himself; but the abstemious diet of the emperor may suggest, as in the case of Socrates, a more rational and honorable cause for his recovery. During his sickness the public consternation was expressed in the habits of the citizens; and their idleness and despondence occasioned a general scarcity in the capital of the East."

With reference to Justinian's diet and habits, Gibbon says in an earlier paragraph of the same chapter: "He excelled in the private virtues of chastity and temperance. . . . His repasts were short and frugal; on solemn fasts, he contented himself with water and vegetables; and such was his strength as well as fervor that he frequently passed two days and as many nights without tasting any food. The measure of his sleep was not less rigorous: after the repose of a single hour the body was awakened by the soul, and, to the astonishment of his chamberlains, Justinian walked or studied till the morning light. Such restless application prolonged his time for the acquisition of knowledge and the dispatch of business." In an age when excesses were the rule rather than the exception, such ascetic habits were the more remarkable and may well have been associated with a high degree of bodily endurance and recuperative power.

As to the modes of dissemination of the plague and the duration and extent of the Roman epidemic, Gibbon is fairly explicit.

"Contagion is the inseparable symptom of the plague; which, by mutual respiration, is transfused from the infected persons to the lungs and stomach of those who approach them. While philosophers believe and tremble, it is singular that the existence of a real danger should have been denied by a people most prone to vain and imaginary. Yet the fellow-citizens of Procopius were satisfied, by some short and partial experience, that the infection could not be gained by the closest conversation; and this persuasion might support the assiduity of friends or physicians in the care of the sick, whom inhuman prudence would have condemned to solitude and despair. But the fatal security, like the predestination of the Turks, must have aided the progress of the contagion; and those salutary precautions, to which Europe is indebted for her safety, were unknown to the government of Justinian. No restraints were imposed on the free and frequent intercourse of the Roman provinces; from Persia to France, the nations were mingled and infected by wars and emigrations; and the pestilential odor, which lurks for years in a bale of cotton, was imported, by the abuse of trade, into the most distant regions.

The mode of its propagation is explained by the remark of Procopius himself, that it always spread from the seacoast to the inland country; the most sequestered islands and mountains were successively visited; the places which had escaped the fury of its first passage were alone exposed to the contagion of the ensuing year. The winds might diffuse that subtle venom; but, unless the atmosphere be previously disposed for its reception, the plague would soon expire in the cold or temperate climates of the earth. Such was the universal corruption of the air that the pestilence which burst forth in the fifteenth year of Justinian was not checked or alleviated by any difference of the seasons. In time, its first malignity was abated and dispersed; the disease alternately languished and revived; but it was not till the end of a calamitous period of fifty-two years that mankind recovered their health, or the air resumed its pure and salubrious quality. No facts have been preserved to sustain an account, or even a conjecture, of the numbers that perished in this extraordinary mortality. I only find that during three months, five, and at length ten, thousand persons died each day at Constantinople; that many cities of the East were left vacant, and that in several districts of Italy the harvest and the vintage withered on the ground. The triple scourge of war, pestilence and famine afflicted the subjects of Justinian; and his reign is disgraced by a visible decrease of the human species, which has never been repaired in some of the fairest countries of the globe."

There is something strikingly modern in Gibbon's concept of preventable mortality as a disgrace. It is always instructive to watch the human mind groping for truth. Despite the amusing primitiveness of some of Gibbon's ideas about the dissemination of an epidemic, he had at least unconsciously grasped the theory of infection. He was far enough removed from antiquity to be freed from superstition, yet had come only so far as the stage of imperfect knowledge. It is for these reasons, as well as for its admirable style, that his account of the plague is one of the most valuable literary records of the history of that sinister disease.

#### REPORT OF NEW YORK MILK COMMISSION.

In March, 1911, the New York Milk Committee, a voluntary organization working in the interests of improving the milk supply of New York City, appointed a commission of seventeen to study the milk standards, ordinances, rules and regulations throughout the country, and to report on a uniform series of suggested provisions which might be recommended for adoption by any community. Among the members who served

on this commission were Dr. Milton J. Rosenau, professor of preventive medicine and hygiene at the Harvard Medical School, and Dr. Burdett L. Arms, director of the bacteriologic laboratory of the Boston Board of Health. The report of this Commission was published in the weekly bulletin of the United States Public Health and Marine-Hospital Service for May 10, 1912. It consists of an explanatory preamble, describing the need of milk control, the responsibility of public health authorities, and other aspects of the problem, and a main report containing its resolutions regarding milk standards, rules and regulations. An appendix contains the report of the committee on the microscopic examination of milk, on the determination of the dirt in milk and on methods of reporting bacterial counts.

As a result of its investigations, the Commission reports a series of requirements and recommendations, classified under appropriate headings. These may be taken to represent the combined judgment of a number of unbiased experts, and as such are entitled to serious consideration. As yet there has been no time for action upon them in New York. In Massachusetts there is the same lack of uniformity in milk laws as in the former state. The two bills dealing with this subject have both been defeated this spring by the General Court. Before further legislative measures on the matter are undertaken in this state, it would seem well that the results and recommendations of the New York Milk Commission should be carefully considered, in order to take advantage of the best expert opinion on this important subject. There should be practicable standards of quality for milk, means for regulating its production and satisfactory methods for its inspection, transportation and sale; and for the interests of the consumer and the safeguarding of the public health, these should be uniformly adopted by every community in the country.

#### EDUCATIONAL WORKSHOPS FOR TUBERCULOUS CHILDREN.

At the sessions of the Ninth International Red Cross Conference, recently held in Washington, D. C., Mr. Simon L. Bernheimer, a German delegate, outlined the methods adopted in Germany by the Red Cross Popular Sanatoria Association for the suppression of tuberculosis in that country. A system of sanatoria has been organized there by Dr. Pannwitz, and their work is administered by the Association in thirteen departments as follows:



- " 1. Sanatoria for adults.
- " 2. Provision for care of families with dispensaries.
- " 3. Registry offices.
- " 4. Open-air camps in the forest.
- " 5. The Victoria-Louise Sanatoria and rest cures for children.
- " 6. The Rural Colony for Work Cure: 'In Memory of Queen Louise.'
- " 7. The Cecilienheim for children suffering from diseases of the bones and joints.
- " 8. Savings-box collections for free treatment in hospital.
- " 9. Workmen's gardens.
- " 10. The Sea-Side Home for Wives and Children of Non-Commissioned Officers.
- " 11. The Augustus School for Lady Helpers.
- " 12. The Holiday Colonies.
- " 13. Educational workshops."

Mr. Bernheimer is the director of these workshops, and in describing their operation is reported to have said:

"It is ridiculous that the hundreds of children who are now being successfully treated for tuberculosis should be permitted to leave our institutions no better off than when they entered, except for the cure of their disease. Of course this is a great accomplishment, but it does not represent all we can do for the children or all we ought to do for them. Many of them go back to homes where the likelihood of their again incurring disease is as great as before and thus our work may be lost. A year ago the German Red Cross instituted its latest department, the educational schools and industrial workshops, at Hohenlychen, and the results in even this brief time have been such as to lead the Empress Augusta Victoria to say publicly that the creation of the workshops in connection with the Children's Sanatoria of the Red Cross was in her opinion a development of international importance.

"We believe not only that the activities of the Red Cross should not be confined to periods of war but that it is one of the greatest of existing agencies for bringing about better conditions among our children. You have no such system here in connection with the American Red Cross, but not only in my opinion would the American Red Cross do well to study our example in Germany, but every other charitable institution where children are cured would find it of advantage to examine our methods.

"While our institute is a private affair, supported by the contributions of the charitable, the children are sent us at the instance of the municipalities, the municipal physicians under the German system examining the children in the schools and recommending their treatment for tuberculosis. In its early stages this disease can be cured by open-air methods; but it seemed to us that the cure stopped short of conferring the greatest benefits within our power. So we established the department of industrial education.

The children are not required to do work of any kind until they are convalescent or cured; but when they are strong enough we begin to teach them. The choice of a profession is equally important to them with health. Children who have regained their health should be given the opportunity of entering the profession most suitable for their bodily and intellectual aptitudes and in which they will be able to earn a comfortable living.

"This idea has found friends everywhere, Burgomasters, town counsellors and school physicians of the different districts have agreed to send to Hohenlychen their weakly children in need of a change of air. The place is one of the most beautiful in Germany, and it has been arranged that the children, once restored to health, shall be taught some suitable profession. We have made a start with embroidery for the girls. In founding this household school the basic idea has prevailed that the child of the past, the girl of the present, should be made an able wife of the future. For this purpose there has been added to the institution a household school, where, under the direction of a trained teacher, the girls are taught how to manage a household in a scientific, economical and practical manner. Studies of the manual skill displayed by the pupils also give the teachers an indication in what direction the qualifications of the girls may be turned to account and further developed. The proceeds of the work go to the support of the school, but something is allowed to the children, and last Christmas the management provided the girls with savings bank books in which part of the earnings of the various classes are entered.

"There can, of course, be no limit to development of the work we have begun. The idea of combining technical education with a charitable cure is a new one, and one of my purposes in visiting this country is to call it to the attention of the charitable organizations of the United States. It would be wise to found such schools in connection with already existing state or city sanatoria and hospitals. Such organizations should be based on national and social economic principles. In Germany the Red Cross supplies an ideal system for the propagation of this idea. The United States has not only the Red Cross but scores of organized charities to which I believe the idea will appeal."

Not the least of the problems of the tuberculate is what shall become of him after he leaves the sanatorium supposedly cured of his tuberculosis. Particularly is this of importance in the case of children, for in them the prospect is brightest of preventing the recurrence of their disease. This can best be done by adapting their subsequent education and training so as at once to make them useful and self-supporting and to teach and establish them in ways of life and work which shall best aid them in overcoming their tuberculous predisposition. There is much

to be commended in Mr. Bernheimer's suggestions and in the methods of the German Red Cross Popular Sanatoria Association, which deserve careful consideration by hygienists and educators in this country.

#### A DEMOCRATIC KING.

KING FREDERICK VIII, of Denmark, died of cerebral hemorrhage at Hamburg, Germany, on May 14, at the age of nearly sixty-nine. The circumstances attending his death were quite in keeping with his character in life. He was staying for a few days in Hamburg on his return to Copenhagen from Southern Europe, where he had gone to recuperate after an attack of pneumonia which he had last winter. On the evening of his death he went out alone for his usual stroll along the banks of the beautiful Binnen Alster, from which he turned into the Gänsemarkt. Here he fell and died almost instantly. His body was found by a police officer and taken to the mortuary of the Sailors' Hospital, where it lay unrecognized for several hours, until identified by members of his suite, who, being alarmed by his majesty's absence, instituted a search. The king had been taken for an unknown but prosperous tradesman.

In comparison with the more dramatic deaths recorded in history and literature of other members of the Danish royal family, King Frederick's may appear plebeian; but it seems exactly such as he would have wished. He was the most democratic, not only of kings but of men, hating the forms of court and the fallacies of life. He always traveled incognito when possible and habitually went about unattended. He was the only monarch in Europe who would ride on tramcars, where he always stood if there were not seats enough for all. Moreover, he was the only modern king who, as crown prince, had served as a private soldier in the army. Naturally he was the idol of his people, and his death has occasioned the sincerest grief throughout the realm. His reign was brief, but he showed himself always a patriotic ruler, as well as a scholar and a patron of all the worthy arts and sciences of civilization. He was particularly the friend of medical research and progress, and under his government the public provision in Denmark for the insane and tuberculous has become a model for the rest of the world.

King Frederick's body has been taken for funeral and burial to the historic royal castle at Elsinore. He is much worthier of its honors than the Claudius who made its echoes resound

with his rouse and wassail. He was rather the modern counterpart of Henry Plantagenet the Fifth, who, "if not fellow with the best of kings, was yet the best king of good fellows."

#### HARVARD MEDICAL SCHOOL CLASS DAY.

On Saturday of this week, May 25, the Class Day exercises of the graduating class will be held at the Harvard Medical School. Those who attended the similar occasion four years ago will recall its great success and charm, and the fitness of the spacious quadrangle and academic dignity of the massive marble buildings as environment for such a social function. The custom then happily instituted has unfortunately lapsed until the present year. Its revival by this year's class should be matter of congratulation to them and to the school. In a recent circular letter to the Faculty and Alumni, the Class Day Committee appropriately says:

"During the entire medical course too little importance is attached to social relations between the faculty, alumni and undergraduates, largely due to the isolation of this department from the rest of the University. We feel that in holding this Class Day we accomplish a manifold purpose. It seems that this occasion may serve to unify class spirit, bring the alumni and undergraduates into closer relationship, awaken enthusiasm among graduates and serve as an expression of our loyalty to the school. It also affords an opportunity for the friends of the students and graduates to inspect the buildings and equipment of our school, of which we are all justly proud."

The program for the occasion will consist of inspection of the grounds and buildings, and an informal reception from 2 to 4 P.M. From 4 to 5 will be the formal exercises, consisting of addresses by President Lowell and Dean Bradford, and the Ivy Oration by Mr. Lewis W. Hackett, of the graduating class. From 5 to 7 there will be refreshments and dancing. In case of rain the program will be carried out indoors with but slight modification.

The entire success of this occasion depends upon the good will and attendance of the Faculty, and graduates. Tickets will be sold only to members and graduates of Harvard University, but may be obtained by them in any number at seventy-five cents each for themselves, their families and friends, by application in writing or in person to Mr. Henry Lyman at the Harvard Medical School.

We cordially wish the best of success to this auspicious revival of a pleasant and worthy

academic custom. Its future unbroken continuance is also much to be desired, for it should have a wholesome humanizing and socializing influence on undergraduate life at the Medical School.

#### DOCTORS AND THE FOURTH DIMENSION.

THE essence of the fourth dimension seems to be the distinction between rightness and leftness. This is hardly a mathematical definition, but it may serve our purpose. Now the distinction between rightness and leftness is a point in which doctors differ from most other people. The average man thinks of right and left as they refer to *him*, the doctor as they refer to the other person. In his earliest days as a student of anatomy, the prospective doctor is as puzzled as any one else would be by the necessity of describing right and left correctly with reference to his "subject"; and many is the unwary beginner caught by his quizmaster in error in this respect. Probably every one of us has been in this position. By degrees, however, we have learned to correct our instinctive impressions, until it has become as natural for us to refer accurately to our patient's right arm or left lung from *his* point of view, as it is for a woman to know which side of her face she is looking at in a mirror. This unconscious facility we have acquired by practice in imagining ourselves in the other person's place, making our left his right; that is, by exchanging with him in the fourth dimension.

Sometimes, however, the doctor's mental sinistro-dexterity stands him to a disadvantage. He transfers his habit of regard to inanimate objects, and thinks of them in fashion exactly opposite to the manner of ordinary persons. He sends some one to find an instrument on the right side of a certain shelf, only to realize that he was thinking from the point of view of his instrument cabinet, while the empty-handed messenger had sought in vain on his own right hand. In looking at a group picture of persons whose names are given below as "from left to right," the doctor is sometimes genuinely perplexed as to who is who, and in grave likelihood of misidentification. Even when he reads a book, he may feel that he is reading from right to left, as he reads the lines on a patient's face. Not so the average man, who serenely and unquestioningly maintains the egoistic standpoint, and falls into uncertainty only when he tries to describe or refer to the parts of another's anatomy. Perhaps, however, the in-

convenience of the doctor's occasional confusion is outweighed by the moral advantage of his training in thinking from the other person's point of view. This habit, as an inculcator of unselfishness, should offset any disadvantage of the doctor's "error in the fourth dimension."

#### MEDICAL NOTES.

THE ROBERT KOCH INSTITUTE FOR INFECTIOUS DISEASES. — It is announced that in accordance with a suggestion made by the German Emperor, the new Berlin Institute for Infectious Diseases will be named in honor of the late Dr. Robert Koch.

MEETINGS OF GERMAN MEDICAL SOCIETIES. — The nineteenth annual meeting of the Union of German Laryngologists will be held at Hannover, Germany, from May 23 to 25, and the fifteenth annual meeting of the German Society for Gynecology will be held at Berlin from May 29 to 31.

PURCHASE OF RADIUM MINES BY AUSTRIAN GOVERNMENT. — An item in the issue of *Science* for May 17 states that "the Austrian government has purchased for about \$600,000 the only two radium mines at Joachimsthal which were owned by private individuals. It is estimated that the two mines will yield annually about 3 gm. of radium. Plans are under way for the development of Joachimsthal as a resort for the treatment of disease by radium."

NINE CENTENARIAN MAGISTRATES IN THE BALKANS. — In a recent issue of the Manchester (England) *Guardian*, it is stated that at the latest municipal elections in the province of Uskub, in the Turkish Balkans, nine of the magistrates elected were centenarians, the oldest being one hundred and eleven years. Apparently this province is remarkable not only for the longevity of its inhabitants but also for the persistent interest of its centenarians in public service.

MEMORIALS TO DR. GIRVIN AND DR. MUSSER. — The will of the late Dr. Musser, of Philadelphia, contains a bequest of \$15,000 to the University of Pennsylvania "for the endowment of a fellowship in honor of the late Dr. Robert M. Girvin." An invitation has been extended to the physicians of Philadelphia to contribute to a fund in memory of Dr. Musser, "to endow the Social Service Department of the University Hospital, of which he was the founder and president.

**GIFT TO NATIONAL COMMITTEE FOR MENTAL HYGIENE.**—A generous donor who wishes his name withheld has recently given the sum of \$50,000 to further the work of the National Committee for Mental Hygiene, and has offered to give \$50,000 more provided an additional sum of \$200,000 be secured by general subscription. The purpose of the committee is to study "all matters connected with the commitment, care and after-treatment of the insane. Its president is Dr. Lewellys F. Barker, of Johns Hopkins University.

**MEDICAL LABORATORIES AT UNIVERSITY OF NORTH CAROLINA.**—On Wednesday, May 8, the new medical laboratories of the University of North Carolina were formally opened with appropriate ceremonies. They provide equipment for courses in anatomy, histology, physiology, pathology and pharmacology. Among the honorary degrees conferred on this occasion was that of LL.D. on Dr. Richard H. Lewis, president of the National Health Association, and on Dr. Charles W. Stiles, who is at present in active charge of the field work of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease.

**REPORT OF HENRY PHIPPS INSTITUTE.**—The recently published sixth annual report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis records the work of that foundation during the two years ended Feb. 1, 1910, the date on which it was placed under the control of the University of Pennsylvania. It contains the statistic material then on hand; and certain papers detailing experimental work on the relation of intestinal absorption to pulmonary anthracosis, the action of pancreatic extract on the tubercle bacillus, the ophthalmo-tuberculin reaction, and the finding of alleged tubercle bacilli in the blood. It is the purpose of the directors to continue the publication of these reports, which contain a vast amount of valuable data.

**PAN-SLAVIC CONGRESS OF SOCIAL MEDICINE AND HYGIENE.**—It is announced that the first Pan-Slavic Congress and Exposition of Social Medicine and Hygiene will be held at St. Petersburg, Russia, during the week beginning May 28. The congress will consist of five sections.

"Section 1 will deal with the regulation of medical aid; hygiene of houses and cities; housing problems; nourishment, with price of food; social and hygienic protection of workingmen; combat of prevalent diseases; protection of the mental health of the population; medical education and activities, and cure establishments,

with balneotherapy. Section 2 embraces physical exercises; the Sokols (the great Slav gymnastic organization); athletic contest and sports; and bathing, with swimming. Section 3 deals with abuse of alcoholic beverages; dissipation and specific diseases; suicide and criminality. Section 4 extends to development of the child; health in infancy; infant mortality; training of the child before school age; school hygiene, and mental development of the child. Section 5 embraces everything relating to the functions and health of woman."

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.**—For the week ending at noon, May 21, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 32, scarlatina 16, typhoid fever 12, measles 202, smallpox 1, tuberculosis 66.

The death-rate of the reported deaths for the week ending May 21, 1912, was 15.06.

**BOSTON MORTALITY STATISTICS.**—The total number of deaths reported to the Board of Health for the week ending Saturday noon, May 11, 1912, was 194, against 264 the corresponding week of last year, showing a decrease of 70 deaths, and making the death-rate for the week, 14.05. Of this number 102 were males and 92 were females; 189 were white and 5 colored; 125 were born in the United States, 64 in foreign countries and 5 unknown; 37 were of American parentage, 135 of foreign parentage and 22 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 28 cases and 2 deaths; scarlatina, 38 cases and 0 deaths; typhoid fever, 9 cases and 0 deaths; measles, 167 cases and 0 deaths; tuberculosis, 79 cases and 19 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 34, whooping cough 1, heart disease 30, bronchitis 2. There were 13 deaths from violent causes. The number of children who died under one year was 40; the number under five years, 51. The number of persons who died over sixty years of age was 45. The deaths in hospitals and public institutions were 90.

**MENINGITIS IN SOMERVILLE.**—A death from cerebrospinal meningitis was reported on May 15 in Somerville, Mass., the second that has occurred in that city during the past ten days. No other cases of the disease are now known to exist there.

**SMALLPOX IN EAST BOSTON.**—A case of smallpox was reported last week in East Boston, the second that has occurred in that section of the

city during the past fortnight. The patient, a man of forty-six, has been removed to Galloupe's Island.

**SMALLPOX AT NORWICH UNIVERSITY.** — Report from Northfield, Vt., on May 18, states that two cases of smallpox have recently occurred among students at Norwich University, a neighboring military academy. The remaining students have been ordered into tents, and are quarantined in their camp on a hillside. The patients have been isolated, and the barracks and buildings of the university fumigated.

**ESTABLISHMENT OF A NATIONAL QUARANTINE STATION AT PROVIDENCE.** — The city council of Providence, R. I., with the permission of the Rhode Island General Assembly, has requested the Secretary of the Treasury to establish a national quarantine station at that port. It is stated that this request will be granted and that an officer of the United States Public Health and Marine-Hospital Service will be detailed to assume charge of the station.

**NEW ENGLAND ASSOCIATION FOR THE EDUCATION OF NURSES.** — The spring meeting of the New England Association for the Education of Nurses was held at the rooms of the Twentieth Century Club, Boston, on Friday evening of last week, May 17. Miss Gertrude L. Farmer, of the Social Service Department of the Massachusetts General Hospital, read a paper on "The Trained Nurse and the Social Worker," and her paper was followed by an interesting discussion of the subject.

**NURSES' GRADUATIONS AT THE CHILDREN'S AND CITY HOSPITALS.** — Invitations are issued by the managers of the Children's Hospital, Boston, to the graduating exercises of the class of 1912 of the training school for nurses, at the Conservatory of Music, on Thursday evening of this week, May 23; and by the trustees of the Boston City Hospital to the graduating exercises of its training school for nurses, in the surgical amphitheater, on Friday afternoon of this week, May 24. Following the latter occasion there will be a reception from 5 to 6 P.M. at the Vose House.

**HOSPITALS AND THE HIGH COST OF LIVING.** — The present high cost of living has its effect not only on private individuals but on the administration of public institutions. In a letter from the president of the board of trustees of the Boston

City Hospital, recently published in the daily press, it is stated that during the first four months of the current year the running expenses of the hospital have exceeded those of the corresponding period last year by \$26,627. Of this amount more than half of the increase was in subsistence supplies. The per capita cost at the Boston City Hospital last year was \$12.42, the lowest of the twenty-one largest hospitals in the United States, with the exception of \$12.25 at the Rhode Island General and \$11.38 at the Buffalo General Hospital.

**HARVARD MEDICAL ALUMNI ASSOCIATION TRIENNIAL MEETING.** — The triennial meeting of the Harvard Medical Alumni Association, held in Boston on Wednesday of this week, May 22, was largely attended by graduates of the Harvard Medical School from every part of the country. In the afternoon there was given at the school a series of demonstrations, of which a program was published in the issue of the JOURNAL for May 9, following which many of the alumni availed themselves of the opportunity to inspect the school, its departments, grounds and surrounding hospitals, completed or in process of erection. In the evening, the triennial dinner of the association at Hotel Somerset was attended by a large and enthusiastic company. There were addresses by President Lowell, of Harvard University; by Dr. J. Collins Warren, president of the Harvard Medical Alumni Association, and by other distinguished guests and alumni. Dr. Warren, who presided at the dinner, introduced the speakers with wonted geniality and tact. The occasion was a notable success and afforded the alumni an unusual opportunity to review the progress of the school and its allied institutions, to hear a statement of present conditions and to learn its policies and plans of future development. A full account of the proceedings, both in the afternoon and in the evening, will appear in a later issue of the JOURNAL.

#### NEW YORK.

**NEW BUILDINGS OF MONTEFIORE HOME.** — Work has been commenced on the new buildings of the Montefiore Home and Hospital for Chronic Invalids at 210th Street, in the Bronx. A large tract of land has been secured, and in addition to an administration building there will be nine pavilions connected by covered corridors. They are to be constructed of reinforced concrete, with brick facing and terra cotta ornamentation, and the total cost will be \$2,000,000. The

institution will have a capacity of 450 beds, and will be very thoroughly equipped with facilities for every variety of electrical, hydropathic and mechanical treatment.

**CONFERENCE ON PUBLIC BATHS.**—A conference on public baths was held in the Council Chamber at the City Hall on May 14 and 15, and among the papers presented were the following: "Ancient and Modern Baths," by Dr. Joseph E. Gichnor, of Baltimore; "Public Laundries in Connection with Public Baths," by W. L. Ross, of Philadelphia; "Advertising Public Baths," by Hugh C. McGrath, of Boston; "Portable Baths and Their Uses," by T. M. Beadenkoff, of Baltimore; "River Baths in the Mississippi at Minneapolis," by J. H. Chase, of Minneapolis; "Should Fees be Charged at Public Baths?" by F. C. Alber, of Cleveland; "The Need of Extending the Public Bath System," by Dr. William H. Hale, of Brooklyn.

**REPORTS OF STATE CHARITIES AID ASSOCIATION.**—The recently issued thirty-ninth annual report of the State Charities Aid Association of New York to the State Board of Charities, and its nineteenth to the State Commission in Lunacy, record the work of this organization for the year ending Sept. 30, 1911. The former deals especially with the visitation and improvement of charitable institutions maintained by the state, by counties, cities and towns, the placing of destitute children in families and the prevention of tuberculosis; the latter with institutions for the insane, and the prevention of insanity. Particular attention should be called to the report of the standing committee on hospitals, dealing not only with hospital but with almshouse work; to the report of the special committee on the prevention of tuberculosis, which has pursued zealously its efforts begun in October, 1907; and to the report of the special committee on mental hygiene. The last-named committee has devoted itself to three general lines of work: To the general education of the public as to the causes and prevention of insanity; to the promotion of the establishment of clinics for mental and nervous diseases; and to securing proper medical treatment for cases of incipient insanity. The entire document deserves thorough and thoughtful perusal.

**INSPECTION OF COLD STORAGE FOODS.**—The State Department of Health has undertaken the very arduous task of inspecting all the retail places in the state which handle cold storage foods. Acting under the authority granted by the Bren-

nan bill, it has just issued regulations which provide in regard to the sale of such foods at retail as follows: "The representation of cold storage poultry, fish and eggs, as required under Section 339 C, may be made by the retailer by placing upon such articles or upon the receptacle containing them, in full view of the public, a card not smaller than six inches in height by ten inches in length, upon which shall be printed the words 'cold storage' in plain letters not less than two inches in height." All dealers are being notified that this regulation must be complied with and that the department will undertake prosecutions wherever cold storage foods are sold as fresh goods. In regard to the provision of the law that no cold storage foods must be kept longer than ten months, it is stated that most of the cold storage plants of the state have complied with this regulation, the time limit on which expired April 15; though in a number of instances where goods were held over this date prosecutions will be made. Considerable quantities of poultry and fish which had been held in storage for long periods, and released before April 15, have been seized by the local health officers, and in New York City the government inspectors seized 30,000 lb. of butter which they claimed was unfit for food.

**VITAL STATISTICS FOR APRIL.**—The death-rate in the city in the month of April was about the same as in March, though considerably lower than in April last year, — 16.09 as against 17.54. The most noticeable features in the deaths during the month are the continued increase in the mortality from measles, the sharp rise in the deaths from tubercular meningitis, and the decline in those from lobar pneumonia and organic heart diseases. Since December the weekly average of deaths from the latter has been running over 200. Among the diseases in which there was an augmented fatality were the following: The weekly average of deaths from measles increased from 20 in March to 32 in April; the weekly average from scarlet fever, from 22.75 to 26; from diphtheria and croup, from 28.5 to 29.5; from cerebrospinal meningitis, from 5.5 to 7.75; from diarrheal diseases under five years of age, from 39 to 42.75; from tubercular meningitis, from 17.75 to 25.75; from cancer, from 77 to 81.75; from appendicitis and typhlitis, from 13 to 15.5; from Bright's disease and acute nephritis, from 115.75 to 136; and from puerperal diseases, including septicemia, from 15.75 to 18. Among the diseases which showed a diminished mortality were the following: The weekly average



of deaths from whooping-cough declined from 6.25 to 4; from influenza, from 11.25 to 7.75; from pulmonary tuberculosis, from 201.25 to 192.25; from pneumonia, from 151.75 to 123.25 (though there was no decrease in the deaths from bronchopneumonia); from apoplexy and softening of the brain, from 28.75 to 24.5; from organic heart diseases, from 203 to 174.5; and from cirrhosis of the liver, from 18.25 to 17.5.

### Current Literature.

#### MEDICAL RECORD.

MAY 11, 1912.

1. BERG, H. W. *Observations on Some Clinical Features of Scarletina.*
2. VAN GIESON, I., AND LYNCH, H. L. *Creosote and Calcium Medication in Respiratory Affections in Children and in Pulmonary Tuberculosis. Russell's Generalizations in Tuberculosis.*
3. \*WILLIAMS, B. G. R. *Oxaluria Dolorosa. A Contribution to Genito-Urinary Surgery.*
4. HASKELL, C. U. *The Mortality of Indifference.*
5. MITCHELL, J. R. *The Basic Cause of Flatfoot.*
6. SILL, E. M. *How may we Better the Condition of the Growing Child?*

3. Williams discusses "oxaluria dolorosa," as he terms the symptom-complex arising from excess of uric acid in the urine. Far too little attention has been paid in medical literature, he thinks, to this important condition. The differential diagnosis between oxaluria and calculus is often difficult, but there are two valuable points to be considered: (1) Pus, which is common in calculus, is rare in oxaluria; and (2) a negative x-ray finding is very reliable. The treatment of oxaluria dolorosa is simple. All food which contains oxalic acid or substances which can be converted into it should be avoided. This means carbohydrates in general, and especially oranges, apples, grapes, tomatoes, rhubarb, carrots, cabbage, asparagus and celery. In antacid treatment it must be remembered that a slight acidity is necessary for the solution of calcium oxalate crystals. [L. D. C.]

#### NEW YORK MEDICAL JOURNAL.

MAY 11, 1912.

1. WHITE, W. A. *Fundamentals of the Freudian Psychology.*
2. EINHORN, M. *Widening the Pylorus without Operation.*
3. ERDMANN, J. F. *Differential Diagnosis of Pancreatic Affections and Gallstones.*
4. VANDIVER, A. C. *The Liability of Physicians for Accidents Occurring during Anesthesia.*
5. ANDERSON, J. F., AND GOLDBERGER, J. *The Experimental Proof of the Identity of Brill's Disease and Typhus Fever.*
6. \*ROSENBERGER, R. C. *On the Presence of Bacteria in Fresh Eggs.*
7. BOLDUAN, C. F. *Von Hansemann's Plea for Conditional Reasoning in Medicine.*
8. FERGUSON, R. H. *Surgical Anesthesia.*
9. REED, R. *A Case of Hysteria in a Girl of Thirteen Years, Illustrating the Mechanism of an Hallucination.*
6. Rosenberger made elaborate bacteriologic tests of hens' eggs as sold by dealers of all kinds. He finds that fresh eggs are practically sterile, whether clean or dirty on the outside. A fresh egg has no distinctive odor and no acid- or gas-producing bacteria can be found in it. The white and the yolk do not mix in the shell even after vigorous shaking. If an egg is cracked so that the membrane is broken, colon bacilli and other bacteria may enter it. A clean fresh egg will remain fresh for at least ten months in the ordinary refrigerator. The best method of determining whether the egg is fresh in the first place is by caudling. Frozen or dried eggs should not contain

any substance which when injected into the subcutaneous tissue or peritoneal cavity of guinea pigs, even in a fractional part of a gram, causes the death of such animals. [L. D. C.]

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

MAY 11, 1912.

1. \*MELTZER, S. J. *Pharyngeal Insufflation. A Simple Method of Artificial Respiration. A Preliminary Note.*
2. \*ENGMAN, M. F. *The Pathogenesis of Placental Syphilis. A Preliminary Report.*
3. WHITE, W. A. *The Study of Mind in Medical Education.*
4. KREISSL, F. *The Relation of Chronic Gonorrhea and Other Infections in the Urinary Tract to Joint Disease.*
5. NEWTON, R. C. *The Present Non-Medical Treatment of Tuberculosis Not New.*
6. DUVAL, C. W., AND WELLMAN, C. *A New and Efficient Method of Cultivating Bacillus Lepræ from the Tissues. With Observations on the Different Strains of Acid-Fast Bacilli found in Leprous Lesions.*
7. MURPHY, J. B. *Contribution to the Surgery of Bones, Joints and Tendons. (Concluded.)*
8. SEVER, J. W. *Tendon Transplantation and Silk Inserts.*
9. POWERS, C. A. *Further Account of a Previously Reported Case of Ischemic Paralysis and Contraction of Volkman.*
10. BEERMAN, W. F. *Meningeal Carcinomatosis.*
11. SOULE, R. E. *Arthrodesis of Some of the Smaller Joints in the Treatment of Paralytic and Acquired Deformities.*
12. PORTER, M. F. *Possible Dangers of the Vertical Rectus Incision.*
13. BOLAND, M. *A Case of Rudimentary Clavicles.*
14. DAVIS, C. H. *A New Blood Pressure Manometer.*
15. BRYAN, R. C., AND RUFF, F. R. *A Modification of the Crile Transfusion Cuff.*
16. HIRSCHBOECK, F. J. *Supernumerary Axillary Mammary Gland.*

1. Meltzer describes the results of extended experimental work on a simple pharyngeal insufflation in cases where artificial respiration is required. This consists of the introduction into the pharynx of about five and one-half inches of a soft rubber catheter, compression upward of the suprathyoid region, pressure on the abdomen to prevent entrance of air into the stomach, and the use of a bellows with which to produce the forced inspiration. The method is simple and deserves extensive trial on human beings.

2. Engman writes an interesting paper on the pathogenesis of placental syphilis, but is unable to reach definite conclusions. His review of the various theories and experimental work is interesting. [E. H. R.]

#### THE ARCHIVES OF INTERNAL MEDICINE.

APRIL, 1912.

1. DARLING, S. T., AND CLARK, H. C. *Lingulata Serrata (Larva) in a Native Central American.*
2. POLLOCK, L. J. *Blood Pressure in Cheyne-Stokes Respiration.*
3. \*LAWRENCE, C. H., JR. *The Effect of Pressure-Lowering Drugs and Therapeutic Measures on Systolic and Diastolic Pressure in Man.*
4. \*ROWLEY-LAWSON, M. *The Cause of Malarial Anemia, and the Intravascular Migrations of the Malarial Parasite.*
5. SANFORD, C. H., AND ROSENBLUM, J. *The Glycyltryptophan and Tryptophan Tests for Cancer of the Stomach.*
6. \*ROBINSON, S., AND FLOYD, C. *Artificial Pneumothorax as a Treatment of Pulmonary Tuberculosis.*
7. BILLINGS, F. *Chronic Focal Infections and Their Etiologic Relations to Arthritis and Nephritis.*
8. GILMER, T. L. *Chronic Oral Infections.*
9. DAVIS, D. J. *Bacteriological and Experimental Observations of Focal Infections.*
10. WHITMORE, E. R. *Parasite Amebas in the Intestine of Man, with a Study of the Protozoa Found in the Intestines of Healthy Men in the Southern United States.*

11. ZIEGEL, H. F. L. *The Practical Value of Noguchi's Lutein Reaction.*

3. Lawrence studied the effects of various drugs and other therapeutic measures on blood pressure in patients with permanent hypertension. Recent investigations, he says, indicate that the pulse-pressure is an important factor in determining the efficiency of the circulation, and of more value in prognosis than the systolic pressure. The reduction of systolic pressure in cases of hypertension by the use of nitrites, venesection, electricity or hot air is accompanied by a fall in diastolic pressure amounting to approximately one half the systolic fall. Such a reduction produces a coefficient of pressure more nearly approaching the normal than does the coefficient under the conditions of hypertension. Sodium nitrite reduces diastolic pressure more rapidly than the more complex compounds. None of the nitrite group is efficient for maintaining a pressure at a permanently lowered level, as tolerance is soon acquired and increasing the dose is apt to cause symptoms. Venesection has a more lasting effect than any of the drugs considered. The effects of hot air and electricity are uncertain.

4. Rowley-Lawson presents elaborate evidence in the shape of beautiful microphotographs to support the contention that grave malarial anemia is due to the migration of parasites of all ages from corpuscle to corpuscle. The most important fact is the frequent finding of parasites in similar stages of development free in the blood, on healthy corpuscles, and on corpuscles which show conclusive evidence of degeneration. In cases of multiple infection, as many as six or seven young parasites were found attached to a single corpuscle. All of these could hardly grow on one corpuscle, and in order not to perish they would have to migrate.

6. Robinson and Floyd present a very interesting contribution on artificial pneumothorax therapy and report twenty-eight cases. This treatment consists in the repeated injections of a slowly absorbable gas (e. g., nitrogen) into the pleural cavity to permit and maintain for an indefinite period the collapse of a diseased lung. The element of rest is an important feature in the therapeutics of all tuberculous infections. The immobilisation of a tuberculous lung tends to arrest the progress of the infection. The writers report that, with the exception of three cases in which a pleural space could not be established, distinct relief of symptoms was the immediate and constant result of lung compression. The tuberculous process was brought to a standstill in at least six of the cases. Completeness of compression is essential, and to secure this frequent injections are necessary. It is certain that unilateral phthisis, resistant to hygienic treatment, can sometimes be arrested by the continuous employment of this method. The writers, therefore, conclude that artificial pneumothorax has a definite place in the treatment of pulmonary tuberculosis. [L. D. C.]

THE LANCET.

APRIL 27, 1912.

1. \*LATHAM, A. *The Uses of Tuberculin in Pulmonary Tuberculosis.*
2. \*WILSON, S. A. K. *Progressive Lenticular Degeneration: A Familial Nervous Disease Associated with Cirrhosis of the Liver.*
3. TAYLOR, F. *The Treatment of Opium Poisoning by the Faradic Current.*
4. WHITEHOUSE, B. *Notes on Uterine Hemorrhage with Special Reference to the Abuse of the Curette.*
5. \*DAY, H. B., AND RICHARDS, O. *The Treatment of Bilharziasis by Salvarsan.*
6. \*SAUGMAN, C. *Can as Good Results be Obtained by the Treatment of Pulmonary Tuberculosis in the Lowlands as at High Altitudes?*
7. HELLIER, J. B. *Cesarean Section for Labor Obstructed by a Suppurating Ovarian Dermoid Cyst.*

1. Latham, after mentioning the two great groups into which the medical profession is divided as concerns tuberculin, namely, those who are its ardent supporters and who believe it will accomplish wonders, and those who have no reliance in it in the slightest, believes, however, that it is conclusively proven that tuberculin, plus

sanatorium treatment, will accomplish better results than sanatorium treatment alone. He discusses the fallacy of statistics in getting at results. He next presents in tabular form the different varieties of tuberculin (he makes no mention of bouillon filtrate, a form much employed in this country). He then discusses those cases suitable for tuberculin treatment: (1) Early cases without constitutional symptoms; (2) chronic afebrile cases; and (3) those cases which apparently need some stimulus to enable them to "turn the corner." He considers in some detail dosage and spacing of doses in the various types of cases. He mentions at some length the administration of tuberculin by mouth (This has been shown to be entirely unsatisfactory. J. B. H.), and last considers direction of treatment and the necessity of combining tuberculin treatment with other measures.

2. Wilson describes most interestingly what he believes to be a new nervous disease occurring in young people associated with cirrhosis of the liver and accompanied by bilateral symmetrical softening of the lenticular nucleus. There are various illustrations. He presents reports of twelve cases. The disease is characterized by involuntary movements, usually of the nature of tremor, dysarthria or anarthria, dysphagia, muscular weakness and spasticity and certain emotional symptoms of a mental nature. The disease is fatal. The article is of distinct interest.

5. Day and Richards, after careful investigation, conclude that salvarsan as a remedy for bilharziasis is absolutely valueless.

6. Saugman compares the results of treatment at his sanatorium at a low level (Veilefjord), which is only seventy-five feet above sea level, with those at Turban's sanatorium, which is on a high level, and concludes that just as good results can be obtained at sea level as in the mountains at a high altitude. [J. B. H.]

BRITISH MEDICAL JOURNAL.

APRIL 27, 1912.

1. \*BUTLIN, H. *A Third Lecture on Unicellula Cancri: the Parasite of Cancer.*
2. \*GRAY, H. T., AND PARSONS, L. *The Arris and Gale Lectures on the Mechanism and Treatment of Shock.*
3. HICKS, J. A. B. *A Method of Estimating the Strength of a Vaccine by a Standard Bacterial Emulsion.*
4. CONFORD, G. J. *A Case of Tuberculous Polyserositis.*
5. WATSON, W. B. *The Diagnosis and Treatment of Sciatica.*
6. CHARLES, S. F. A. *Traumatic Ossification of Tendon.*
7. GALLOWAY, A. R. *Notes on an Interesting Case of Color Blindness.*

1. Rutlin, in this article, which is of theoretical interest solely, discusses cancer, its modes of spread, its growth and other characteristics, and briefly considers the relation of remedial measures, operative and otherwise, to these characteristics of the cancer itself. He concludes with this axiom: "If an operation does not fulfill the requirements of pathology and is, nevertheless, exceedingly successful, the pathology which relates to it must be reversed. Either the observations are incorrect or the deductions which are drawn from them are not justified."

2. In the lecture, Gray and Parsons describe their methods of investigation and discuss the influence of the higher centers on blood pressure, the relation of shock to the various methods of anesthesia, especially variations in blood pressure during lumbar puncture. They consider blood pressure variations due to apparent surgical stimuli, the relationship of blood pressure to the onset of clinical symptoms of shock, the stages of shock and the causes of death from shock. [J. B. H.]

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 14.

APRIL 2, 1912.

1. \*CZERNY, V., AND CAAN, A. *The Treatment of Malignant Tumors with Mesothorium and Thorium.*
2. FAITA, W., AND FREUND, E. *Treatment of Internal Diseases with Emanations of Radium.*
3. WEBER, F. *Röntgen Treatment in Gynecology.*
4. KELEN, B. *Röntgen Treatment of Chronic Metritis.*
5. HERRING, H. E. *Sudden Death from Fibrillation of the Heart.* (To be continued.)

6. v. GRÜTZNER, P. *Two Apparatuses for Study of the Heart.*
7. GROEDER, T. *Carbon-dioxide Baths for Atrioventricular Block.*
8. MOHR, R. *Thrombosis of Arm Veins from Measurement of Blood Pressure.*
9. HÄBERLE, A. *Treatment of Septic Abortion.*
10. FRANCK, A. *A Case of Scopomorphine Poisoning.*
11. KRONIG, B., AND GAUSS, C. J. *Operative Castration or Röntgen Treatment of Myoma.*
12. ANTENRIETH, W., AND FUNK, A. *Colorimetric Estimation of Grape-Sugar in the Urine and of Iron in the Blood. (Concluded.)*

1. After six months experiment with "Mesothorium" (Thorium X) in the course of which one hundred and twenty patients were treated, Czerny reports encouraging results. Mesothorium is chemically analogous to radium. It was used as is radium and gave results differing only in details from those generally to be expected from radium. Without wishing to draw definite conclusions at present, the writer says that thorium seems to be as good as if not better than radium for superficial tumors. Good results were obtained in a variety of conditions, including carcinoma and lupus. [G. C. S.]

WIENER KLINISCHE WOCHENSCHRIFT. No. 18.

MAY 2, 1912.

1. \*SCHIFF, A., AND ZAK, E. *Experimental Investigations on the Pathogenesis of the Arthritic Muscle Atrophies.*
2. LUTHLEN, F. *Chemistry of the Skin.*
3. JAWORSKI, W. *The Physical Examination of Patients in the Prone Position.*
4. v. ALDOR, L. *The Treatment of Cholelithiasis.*
5. \*ZAVADIER, S. *The Test of Pain Sensibility in the Abdominal Organs by Means of Percussion.*
6. ZIMMERN, A., AND COTTENOL, P. *The Influence of Irradiation of the Suprarenals from a Physiologic and Therapeutic Standpoint.*

1. From three series of animal experiments, the authors reach the following conclusions:

(a) Irritating injections into a joint lead to a rapidly progressive atrophy involving all the muscles of the extremity.

(b) Other procedures leading to inactivation, such as fixation or tenotomy, produce an equally rapid and intensive atrophy.

(c) Joint atrophies are not reflex, but due to inactivity.

(d) Unilateral posterior root section, with or without simultaneous joint injection, produces slight inactivation atrophy.

(e) Transverse section of the spinal cord in the thoracic segment leads to rapidly progressive high-grade inactivation atrophy. Simultaneous unilateral joint injection delays the development of the atrophy on the injected side.

(f) The irritative condition established in the sensory portion of the reflex arc by joint injection has not an inhibitory, but a stimulative action on the spinal motor centers, also in regard to their trophic function.

(g) There is, therefore, no experimental foundation for Vulpian's theory of reflex atrophy.

(h) The experimental arthritic atrophies are explicable by inactivity.

On the ground of these conclusions the authors believe that in the pathogenesis of joint atrophies in man also, inactivity plays the chief part.

5. From a series of clinical studies Zavadier concludes that the demonstration of a circular area of tenderness in the epigastrium or right hypochondrium by means of hammer percussion is of as little value as the determination of the maximum point of tenderness by finger percussion in support of the diagnosis of gastric or duodenal ulcer. For the localization of an area of tenderness in the region of the stomach, progressive finger palpation is better suited than percussion. For the delimitation of an inflammatory process in the region of the abdomen, the palpatory test of tenderness is preferable to percussion. Only in cases with considerable muscle spasm is examination by percussion the more suitable procedure. For the differentiation between hepatic and gastric pain, the method of hand percussion recommended by Jaworski often gives excellent results. [R. M. G.]

# DEUTSCHES ARCHIV FÜR KLINISCHE MEDIZIN.

MARCH, 1912.

1. FUJINAMI, K. *Pylorospasm, Hypersecretion and Disturbance in Motility.*
2. HAMPFELN, P. *Pure Mitral Stenosis.*
3. \*ASCHENHEIM, E. *Relation of Rickets to the Hematopoietic Organs.*
4. ROLLY, F. *Theory and Treatment of Diabetes Mellitus.*
5. \*CHELMOWSKI, A. *Pathogenesis of Bronchial Asthma.*
6. MEYER-BETZ, F. *Primary Colon Pyelitis.*
7. WEBER, A., AND WIRTH, A. *The Registering of Heart Sounds by O. Frank's Method.*
8. \*v. HOESSLIN, H., AND KASHIWADO, T. *Investigation of Fatty Stools.*
9. EICHHORST, H. *Hemorrhagic Neuritis with Purpura.*

3. In studying the relation between anemia and rickets, Aschenheim has observed a light and only rarely severe anemia during rachitis. With the anemia is a slight leucocytosis of the mononuclear variety. If the anemia is severe, myelocytes may occur, and nucleated red cells. There does not seem to be any relation between the severity of the rickets and the severity of the anemia. It is also impossible to say which case will show big sperm and which increased lymphocytes. There are certain changes in the lymph glands and bone marrow in rickets. He leaves unsettled the question of whether the blood changes are secondary to the disease or a primary factor in it.

5. Chelmowski in a study of bronchial asthma reaches the conclusion that it is a constitutional disease dependent upon some disturbance of internal secretion. The peribronchial lymph nodes show the effect of this disturbance by an increase and fluctuation in size.

8. In a long article, difficult to review, these authors take up the question of the absorption of fat from the intestines under different conditions and the effect upon it of the addition of calcium and magnesium to the diet for the purpose of producing Ca and Mg soaps. They describe the microscopic appearance of the stools also under the various conditions. [C. F., Jr.]

# ANNALES DE L'INSTITUT PASTEUR.

APRIL, 1912.

1. BERTRAND, G., AND JAVILLIER, M. *Action of Manganese on the Development of Aspergillus Niger.*
2. \*NICOLLE, C., CONSEIL, E., AND CONOR, A. *Experimental Work on Typhus Fever Undertaken at the Pasteur Institute at Times during 1911.*
3. CARRE, H. *The "Mal de Lure."*
4. VEILLLOU, A., AND REPAGI, G. *Secondary Infections in Pulmonary Tubercular Ulcerations.*
5. COTONI, L., AND TOUCHE, C. *Studies on the Pneumococcus.*
6. MARIE, A., AND TIFFENEAU, M. *Neutralization of Tetanic Toxin by Cerebral Substance.*

2. These authors have continued their work with typhus fever and have added many interesting points to the knowledge of the disease. They have been able to produce the disease in guinea pigs as shown by the temperature only. And they have shown that blood from the pigs will infect monkeys and other pigs. Even the pigs in which no temperature appeared have the power to pass on the disease. In studying the blood in monkeys to learn about the nature of the infective agent they have decided that it is a micro-organism invisible and filterable. It is more prevalent in the leucocytes than red corpuscles of the blood, and absent in serum and cerebrospinal fluid. The remainder of the article deals with attempts at the production of immunity and is continued in another number. [C. F., Jr.]

# IL POLICLINICO.

MARCH, 1912.

# MEDICAL SECTION.

1. MARCHETTI, G., AND CAPEZZUOLI, C. *A Contribution to the Study of the Mechanism of the Action of Oxygen Inhalations.*

2. SICCARDI, P. D. *The Organic Substratum of the Individual in the Etiology and Clinical Diagnosis of Pseudo-Leukemia and Leukemia.*
3. \*FRANCHINI, G. *Severe Anemia with Flagellates in the Intestine, Their Morphology and Cultural Characteristics.*
4. FRANCAVIGLIA, M. C. *The First Appearance of Papataci Fever in Catania and in Eastern Sicily.*

3. Franchini reports a case of severe anemia in which he found cercomonads in the feces and was able to cultivate them on blood agar. The flagellate stage was observed especially in the intestine, the aflagellate in culture. Rectal inoculation of feces and of culture in dogs and rabbits was negative. [L. D. C.]

### Miscellany.

#### AWARD OF RED CROSS PRIZES. THE FLORENCE NIGHTINGALE MEDAL.

In another column of this issue of the JOURNAL we have commented editorially on the German scheme of educational workshops for tuberculous children, as outlined by Mr. Bernheimer before the sessions of the Ninth International Red Cross Conference recently held in Washington, D. C. On May 16, at this same conference, the first prize of \$3,000, for the best invention for lessening the suffering of sick and wounded soldiers, from the fund established by the Empress of Russia, was awarded to Dr. Louis Lesago, of the Necker Hospital, Paris, "for a portable x-ray laboratory automobile for carrying the wounded from a battlefield."

"Two second prizes of \$1,500 each were awarded to Major Riggensbach, Switzerland, for a wheeled and folding stretcher, and to G. Steindorf, Germany, for a bicycle stretcher. Third prizes of \$500 each were given to Captain Henry L. Brown, U. S. A.; Colonel Pick, Austria; Dr. Glinsky, Russia; Major Halloran, U. S. A.; L. Linxweiler, Germany; and to Captain Roselli, Lieutenant-Colonel Taschetti and Colonel Abboni of the medical corps, Rome, Italy, the last three having participated in a joint invention."

At the closing session, it was proposed to establish a fund for the award to Red Cross nurses who perform exceptionally praiseworthy services of a decoration to be known as the Florence Nightingale Medal.

"Miss Mabel T. Boardman, for the American committee, suggested that the Augusta fund, given by the dowager empress of Germany, the interest on which was to be used for any meritorious Red Cross effort, be increased by contributions from the different societies from \$20,000 to \$100,000. If this were done, it would provide enough money for the publication of an international report on Red Cross work in all the countries of the world. Such a work on nursing, first aid efforts, tuberculosis and other phases of Red Cross activity would prove of value to all Red Cross societies. The question will be referred to the central committees. Japan, Brazil and Portugal, through their delegates, have asked for the next conference five years hence."

#### AN AMERICAN AT THE TUBERCULOSIS CONGRESS.

FURTHER report from the sessions of the Seventh International Congress on Tuberculosis, recently held at Rome, describes particularly the address made in the section on social defense by one of the American representatives, Dr. Edward O. Otis, of Boston. His remarks are abstracted as follows:

"For definite action we need definite knowledge, and this we now possess in regard to tuberculosis. Our preventive and curative efforts are also means of educating the people. Koch's incomparable discovery has given us the key to unlock the doors so long barred that lead to prevention and cure. Thus enlightened, we have already achieved so much success as to warrant the hope of totally removing tuberculosis from the list of prevalent diseases. At first the bacteriologist begins the work, then he is followed by the hygienist, and now is the time to enlist the whole community in the good work. Against a social disease we need a social defense. All must be taught the supreme importance of fresh air, rest, proper food and the need to destroy the sputum. The depressed and predisposed must be sent to work in the open air. We must greatly increase the open-air schools. In America there is the tuberculosis 'class.' This means that where a few tuberculous patients are treated in their homes, being visited by a nurse, they meet their physician once a week in what has been termed a class, and he discusses the record of each case before all the rest. By that means the patients are encouraged to follow the example of those who make the best progress. The day and night camps, by the propaganda of those who attend, have been a powerful educational influence. The public is now much more on the alert. The great thing is to follow the patient after treatment; by this means personal instruction is given in at least a thousand Boston homes. The more the matter is studied the deeper becomes the conviction that tuberculosis is a social disease. Moral, social, economic remedies are far more important than the mere fight against germs. But to kill the germ we have to remove the misery that is the main cause of unhealthful conditions; and the power, the advantage of the present Congress, is that it unites in a common effort members of different political parties and of rival creeds."

#### NUMBER OF MEDICAL SCHOOLS AND GRADUATES.

AN item in a recent issue of the *Canada Lancet* states that there are in the world 320 medical schools, of which 120 are in the United States, 34 in Great Britain and Ireland and 8 in Canada. The total number of medical graduates in the United States in 1911 was 4,273, the fewest in this country for the past ten years.

## Correspondence.

## LETTER FROM THE PHILIPPINES.

*[From Our Special Correspondent.]*THE HOT SEASON. INFANTILE BERIBERI. LEPROSY.  
INTERNATIONAL PLAGUE CONFERENCE.

MANILA, March 23, 1912.

*Mr. Editor:* Since my last letter, weather conditions in Manila have changed. The comparatively cool winter months have departed, giving place to the hot dry season, but my conception of the hot, dry season—at least for Manila—has been greatly changed with experience. To be sure, it is dry and dusty most of the time now, but occasional showers break the monotony. A few days ago, we had the hottest days for years at this season, with a temperature of ninety-eight. In the two years that I have been here, the temperature has climbed higher—to ninety-nine—but once. The northeast monsoon is shifting around to the south, which means a pleasant breeze off the bay most of the time. Midday, to be sure, is hot, and then the open is well avoided, but the nights continue cool and delightful. This is the character of the hot season,—never is it as hot or as stifling as July and August in Boston. To my mind the continuity of the heat rather than its intensity causes trouble. At first, one thinks little about it, but as month after month goes by with no decided change, the monotony of the continued warmth is exhausting. Certainly, the tropics produce a type of neurasthenia, or nervous irritability. In Colorado, I remember certain people became irritable and “nervous” in the spring months when the winds swept down from the mountains continuously. Here in the tropics, the continued warmth must keep the nervous system constantly irritated; the skin is always active day and night; insects of one sort and another are omnipresent; the glare of the sun at midday on the white houses and white shell roads is trying to the eyes; the body is continuously receiving stimuli from the external world that because of their ceaselessness must eventually diminish the reserve store of nervous energy. Certain persons flourish in the tropics and others rapidly go to pieces. In my observation, a high-strung, nervous individual rarely endures the tropics with profit. This country is for the large, physically phlegmatic, easy-going soul, who is young enough to adapt himself easily to the changed mode of life he encounters here.

A minor problem in physiology that some day will probably be solved is the cause of the pseudo-anemia of Americans and Europeans in the tropics. As in most problems of this sort, there are allied conditions which must first be eliminated. There are the true anemias subsequent to malaria and other infections, and in women from a common increased menstrual flow. But in addition to these conditions, there exists a sallowness of complexion which is not in accord with the hemoglobin tests. The condition vanishes upon a trip to Baguio or Japan or the United States, but quickly recurs on return to Manila. In the women, of course, the condition is particularly noticeable, and a new arrival can be recognized almost without fail by the complexion alone. Some have suggested that perhaps the dusting powders commonly used are at fault. This theory is supported by the greater prevalence of this sallowness among the Spanish women who are especially addicted to powders, and by the fact that men show this change to a lesser degree than the women. Perhaps the exaggerated activity of the skin tends to a thickening of the superficial layers of the epidermis, and a consequent pseudo-anemia. Then, too, it must be remembered that many people are not abroad in the sunlight except in the early morning and the late afternoon, and can but expect to have a “cellar complexion.”

Affairs medical are at present quiet in Manila. Many Americans are now in Baguio, leaving Manila comparatively deserted.

In January, the biennial meeting of the Far Eastern Medical Association was held in Hongkong. Representatives from Japan, China, India, the Straits Settlements, Australia and the Philippines were present. The most interesting discussions turned upon the subject of beriberi. Two years ago, the Japanese were unwilling to admit that a rice diet was the important etiological

factor in the production of beriberi. To-day they are partly convinced.

Major Chamberlain and Captain Vedder presented a most interesting article on the cure of infantile beriberi with an extract of rice polishings. Their clinical results in the treatment of fifteen cases have been startlingly brilliant. The symptoms subside as rapidly as when lime juice is used in scurvy. They report, “The observation that such an extract of rice polishings is a true cure for infantile beriberi is of great importance. The death-rate among infants in the Philippines is extremely high. This mortality is greatest among breast-fed babies. In Europe and the United States, the mortality is high among artificially-fed children, but very low for the breast fed. What is the reason for the difference in the two countries? We believe that the greatest part of the mortality among breast-fed infants in the Philippines is due to beriberi. Provided that this is the case, our extract, which cures the children so promptly while they are still permitted to nurse their mothers, will become of the utmost value in reducing the terribly high infant mortality in the Archipelago. Of course it will not at once cure paralysis. These as well as the aphonia are due to nerve degeneration, and time must be allowed for the regeneration of the damaged fibers before the paralysis will disappear. But in acute cardiac cases, it seems likely that life may be saved, and that the other symptoms may be greatly ameliorated by the use of an extract of rice polishings. The scientific interest attaching to the above observations is hardly less than the practical importance, since our work almost surely disposes of the theory that beriberi is an intoxication. It is most irrational to suppose that such an extract of rice polishings could cure a child in a few days, while the child was still receiving the toxin which had originally produced the condition. The infectious theory is even less tenable, since so sudden a cure would not be likely to occur in an infectious disease as a result of such treatment. Our results are, therefore, a most conclusive argument in favor of the dietary origin of beriberi. One can hardly fail to be convinced that beriberi is due to a deficiency of some, as yet unknown, substance in the food, and that infantile beriberi is produced in those children who receive milk from a mother suffering from such a deficiency.”

The leper situation in the Philippines remains interesting. Early in the seventeenth century, the story goes, the Japanese drove the Catholic missionaries out of Nippon. A persistent band of priests returned to their labors, and were massacred. As a grateful recompense for the band of priests from the Philippines, the Japanese sent back to Manila a band of Japanese lepers. By this ship-load of lepers, leprosy is said to have been introduced into the Philippines. Now the disease exists in all parts of the Islands. At Culion, a beautiful little island some thirty-six hours sail from Manila, a well-run isolation colony has been established. Here about three thousand of these unfortunates are gathered to end their days. The conditions under which they live in their concrete dormitories, with good food and medical attendance, are far better than those they have had at home, and the colony is surprisingly happy and cheerful. Eventually this policy of segregation will doubtless have its effect in eliminating the disease from the islands, but as yet it seems to be an easy matter to collect, every few months, two or three hundred cases on a trip through the islands.

Dr. Strong has recently issued the report of the International Plague Conference held in Mukden last April. The report covers nearly five hundred pages with charts, maps, diagrams, pictures and colored plates. Upon Dr. Strong fell practically all the labor of editing the report, and most of the labor of compiling its substance, not to mention the work of the experiments conducted in China and continued in Manila, which form the basis for much of the pathological and bacteriological knowledge of the disease.

The report is most interesting reading both from a scientific standpoint because of the valuable facts added to our store of knowledge of pneumonic plague, and politically because of the interesting by-play of rivalry among the representatives of the great nations of the world,—especially among the Japanese, Russians and Chinese; for the scene of the plague epidemic is the scene of the keenest

political struggle for supremacy. Here China has been striving to hold her own, while Russia and Japan have been undermining her influence, and loosening her grip on the country. When national expansion and aggrandizement and the discrediting of China are at stake, what matter a few thousand coolie lives! It is even said that the efforts to embarrass China included intentional scattering of the plague by the free transportation of infected coolies southward. An opportunity to step in and control the situation — and the territory — was not to be lost even if the situation had to be aggravated!

The report is divided into three parts. The first part includes the welcoming ceremonies, the organization of the conference, and then reports day by day of the sessions held for nearly a month. The second part includes the reports of committees and the discussion and adoption of resolutions, and an Interim Report, together with an account of the closing ceremonies of the conference. Part three includes a summary of the knowledge gained from the study of the epidemic. It is divided into four chapters. Chapter 1 is an epidemiological review of the epidemic of pneumonic plague in northern China, 1910-1911, by Dr. Petrie. Chapter 2 is a summary of the clinical features of pneumonic plague as observed in the Manchurian epidemic, by Dr. Strong. Chapter 3 is a summary of the bacteriology and pathology of pneumonic plague, by Dr. Strong. Chapter 4 is a connected narrative based on the testimony presented before the conference, including, first, measures employed to combat the epidemic, and second, the effect of the epidemic on trade.

Some of the bacteriological and pathological reports of Dr. Strong were incomplete at the time of the conference, and the completion of the experiments has been carried on during the past year, at the Bureau of Science in Manila. One interesting experiment has shown that the masks worn by Dr. Strong and Dr. Teague while working among the plague cases were actually quite ineffective and unsafe! Dr. Strong's personal account, "Under the Punkah," of his labors is fascinatingly interesting, and reminds one that the days of heroism and adventure are not yet over, though one decade of the twentieth century is past.

DONALD GREGG.

### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, APRIL 27, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	13	1
Chicago.....	695	188	Waltham.....	5	1
Philadelphia.....	—	—	Brookline.....	4	—
St. Louis.....	—	—	Chicopee.....	8	4
Baltimore.....	—	—	Gloucester.....	4	1
Cleveland.....	—	—	Medford.....	6	3
Buffalo.....	—	—	North Adams.....	9	4
Pittsburg.....	—	—	Northampton.....	5	2
Cincinnati.....	—	—	Beverly.....	8	—
Milwaukee.....	—	—	Revere.....	3	1
Washington.....	—	—	Leominster.....	4	1
Providence.....	—	—	Attleboro.....	2	1
Boston.....	232	52	Westfield.....	7	2
Worcester.....	47	8	Peabody.....	3	2
Fall River.....	38	10	Melrose.....	3	—
Lowell.....	45	14	Woburn.....	6	0
Cambridge.....	26	5	Newburyport.....	7	—
New Bedford.....	34	10	Gardner.....	9	3
Lynn.....	17	5	Marlboro.....	9	2
Springfield.....	16	1	Clinton.....	3	—
Lawrence.....	26	6	Milford.....	2	—
Somerville.....	19	2	Adams.....	2	0
Holyoke.....	17	10	Framingham.....	4	1
Brockton.....	13	1	Weymouth.....	—	—
Malden.....	6	1	Watertown.....	2	0
Haverhill.....	11	5	Southbridge.....	3	1
Salem.....	14	4	Flymouth.....	2	1
Newton.....	11	1	Wester.....	4	2
Fitchburg.....	8	4	Methuen.....	4	2
Taunton.....	17	4	Wakefield.....	4	1
Everett.....	4	1	Arlington.....	1	—
Quincy.....	7	—	Greenfield.....	1	—
Chelsea.....	10	6	Winthrop.....	2	—

### APPOINTMENT.

DR. CHARLES STURTEVANT, of Hyde Park, who has served continuously for forty years as medical examiner for Norfolk County, has been nominated, confirmed, appointed, and commissioned associate medical examiner of Suffolk County. He received the degree of M.D. from the Harvard Medical School in 1862, served as assistant-surgeon in the United States Navy during the remainder of the Civil War, and is a member of the Massachusetts Homoeopathic Medical Society.

### RECENT DEATHS.

DR. HORATIO SPRAGUE KELLEY, JR., who died at West Dennis, Mass., on April 16, 1912, was born in 1854. He received the degree of M.D. from New York University in 1884, and since that time had practiced his profession in West Dennis. He was a Fellow of The Massachusetts Medical Society.

DR. WILLIAM BUTLER PIERSON, a retired physician of Brooklyn, N. Y., died at his country residence at Huntington, Long Island, on May 13, in the eighty-sixth year of his age. Dr. Pierson was graduated from the College of Physicians and Surgeons, New York, in 1852.

DR. R. T. BOLPE, formerly of Dunkirk and Fredonia, N. Y., died on May 15 at Chula Vista, Cal., where he had gone for his health.

### BOOKS AND PAMPHLETS RECEIVED.

Ueber die Sexuelle Konstitution und andere Sexualprobleme. By L. Lowenfeld. Book review, by Dr. F. L. Wells, Waverly, Mass. Reprint.

A Comparison of Personal Characteristics in Dementia Praecox and Manic-Depressive Psychosis. By Earl D. Bond, M.D., and E. Stanley Abbot, M.D., Waverly, Mass. Reprint.

Memorial Day Annual. Wisconsin, 1912. By O. S. Rice, State Library Clerk.

Transactions of the American Association of Genito-Urinary Surgeons. Vol. VI. 1911.

A New Method of Percussion. By Otto Lerch, A.M., M.D., Ph.D., New Orleans, La. Reprint.

Repertorio de Medicina y Cirugia. Bogota.

United States Naval Medical Bulletin. April, 1912. Washington.

Des Abscès Tuberculeux du Foie. Par V. Courtellemont. Reprint.

Bulletin of the Lying-In Hospital of the City of New York. March, 1912. Vol. VIII. No. 2.

Public Health Reports. Vol. XXVII. No. 4. Jan. 26, 1912.

A Typhoid Bacillus Carrier of Forty-six Years' Standing and a Large Outbreak of Milk-Borne Typhoid Fever Traced to this Source. By Charles Bolduan, M.D., and W. Carey Noble. New York Department of Health. 1912.

The Abnormal Temperature. By Martin Cavana, M.D. Sylvan Beach, N. Y. Reprint.

Verhandlungen des Ersten Kongresses des Nordischen Dermatologischen Vereins. Redigiert von C. Rasch, Kopenhagen. 1911.

The Rockefeller Institute for Medical Research, New York. 1911.

Interrelation of the Ammonia and Carbon Dioxide Content of the Blood. By Ralph Hopkins and W. Denis. Reprint.

The Digestibility of White of Egg as Influenced by the Temperature at which it is Coagulated. By Philip Frank. Reprint.

Oxidation of the Amino Acids. II. Alanine and Tyrosine. By W. Denis. Reprint.

The Korloff-Body. A Spurious Parasite. By Otto V. Huffman, M.D. Reprint.

Fifteenth Annual Report of the Loomis Sanatorium, Liberty, Sullivan County, N. Y.

The Institution Quarterly. Vol. II, No. 3. State of Illinois, Board of Administration. December, 1911.

City of Boston, Monthly Bulletin of the Statistics Department, July, August, and September, 1911. Vol. XLII, Nos. 7, 8 and 9.

Department of Commerce and Labor, Bureau of the Census. Bulletin 109, Mortality Statistics, 1910. Washington, D. C.

Fourth Report of Social Service Work at the Massachusetts Charitable Eye and Ear Infirmary for the Year October, 1910-October, 1911. Boston, Mass., 1912.

Massachusetts Commission for the Blind, Fifth Annual Report. Year ending, Nov. 30, 1911.



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Lab. Bulletin  
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emphasizes the  
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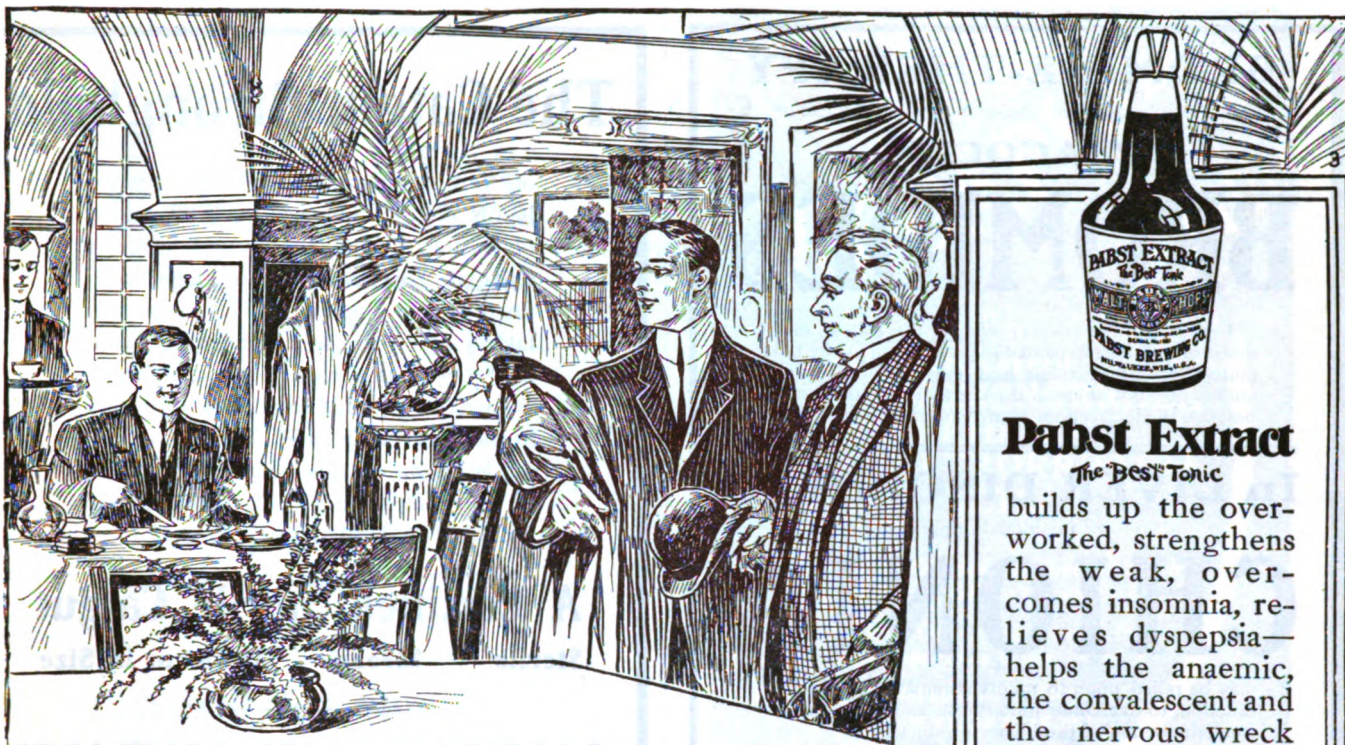
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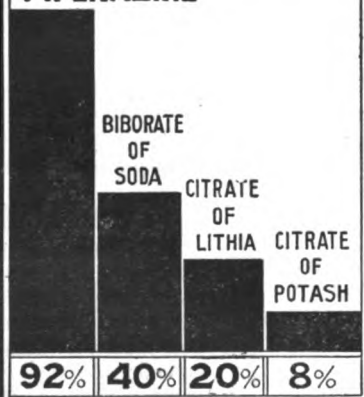
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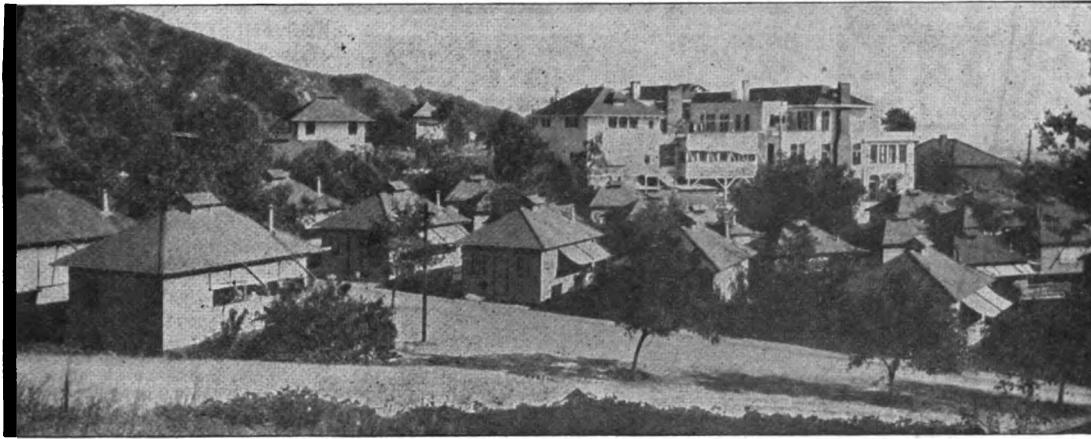
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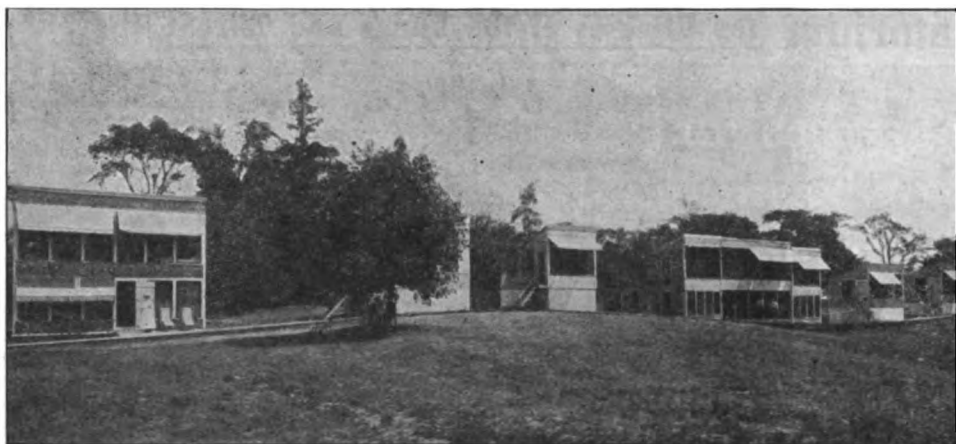
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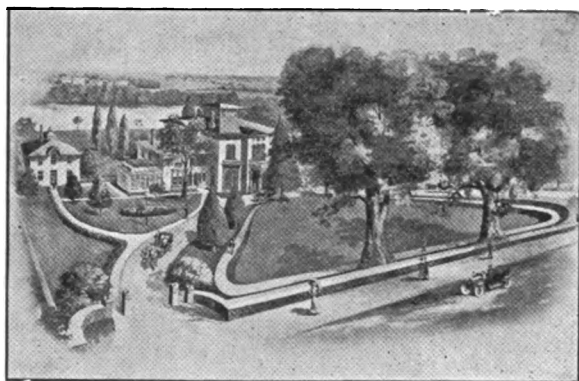
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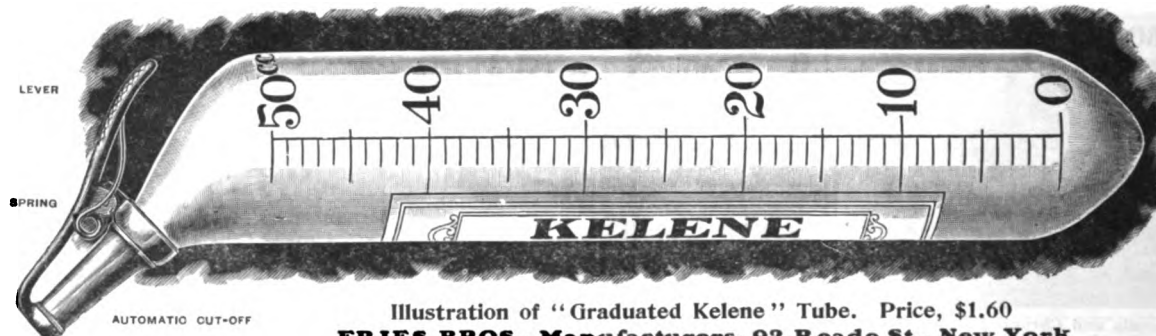


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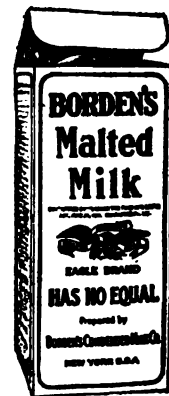
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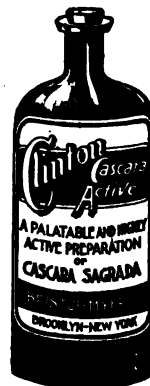
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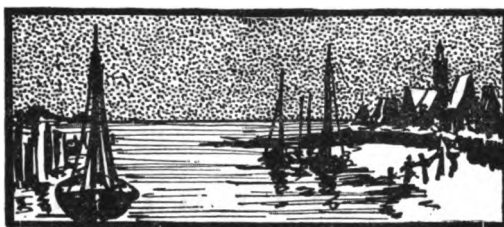
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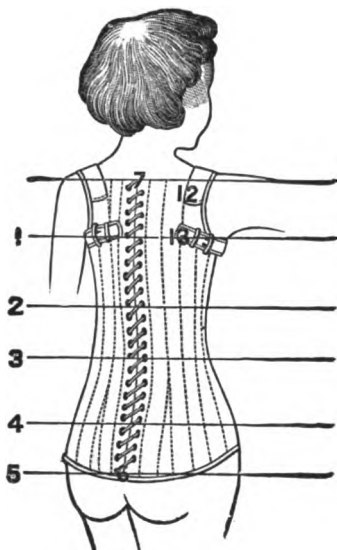
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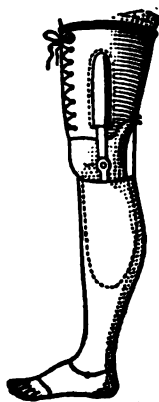
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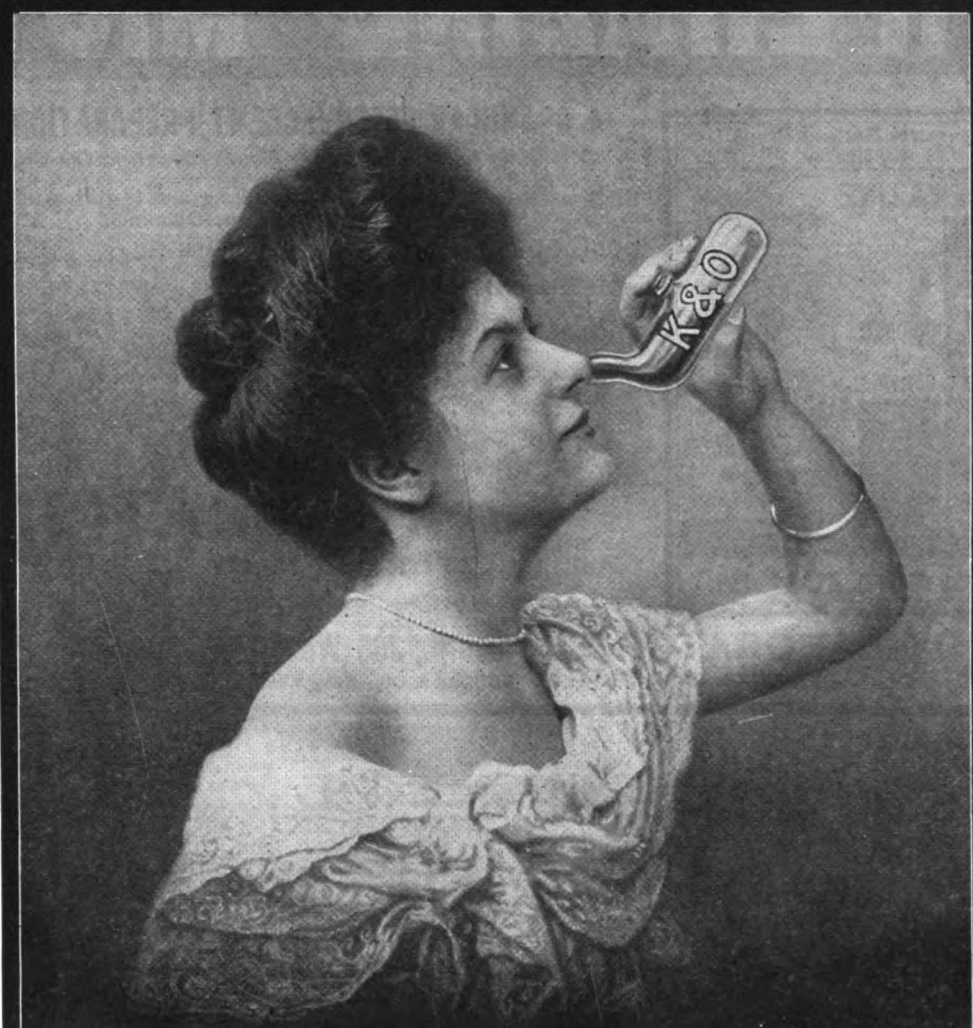
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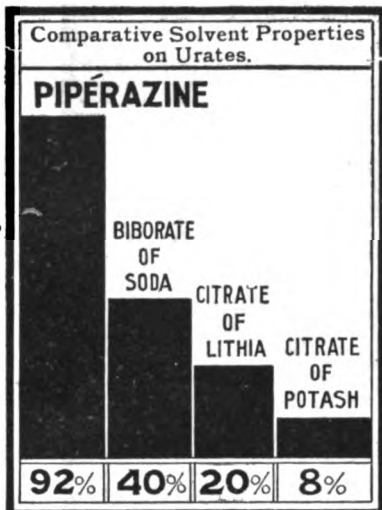
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## MEDICAL IMPRESSIONS OF AMERICA.

BY CECIL KENT AUSTIN, M.D., PARIS.

DURING a recent visit to America I was on several occasions asked to write a brief account of the medical impressions gathered during my trip, and at times I could not refrain from smiling at this request. For my compatriots have one amiable little weakness. They are justly conscious that they have much that is of interest to show to the visitor from abroad; no amount of trouble is too great, or loss of time too considerable, in their eyes, that he may see it to the very best advantage; but at the end they have difficulty in restraining their curiosity to ascertain what he thinks about all they have been at so much pains to bring to his notice. Which of us, however, has not his special foible? And those who have no worse a one than this are to be congratulated. My excellent friends on the other side can be quite easy in mind; I shall endeavor to show in what follows how thoroughly I appreciated both their trouble and what they showed me.

But of what real value are the impressions of a country related by a man who was there only seven weeks? Not much more than that of the snow that falls one day and disappears the next; at best, the gleanings of a few daisies out of a waving meadow. Impressions of travel, — we have them to burn; any foreigner at a loss for a subject goes on a journey and writes up his impressions. I once saw an example of how this is sometimes done, and have never forgotten it. A few summers ago I took a trip to Iceland on a Danish coasting vessel, on board of which I found an Italian *littérateur* who had been sent, for a very respectable consideration, by the *Stampa*, one of the leading papers of Italy, to write up historic Iceland. When this proposal was first made to him he knew no more about Iceland than of the planet Mars. In Italian he could find absolutely nothing to read up on the question, but he spoke French well and managed to lay his hands on two or three small books in that language bearing on the subject.

Then he ascertained from Cook's, in London, where the island actually was and how to get there, and started on his journey. He not only knew not a single word of Icelandic or of any other Scandinavian tongue, but was entirely ignorant of English and German as well, the only languages in which any reliable information on the matter is to be found. He went all around the coast of Iceland with us, going on shore for brief strolls when we stopped for a while at a trading-port. At Reykjavik, the capital, he left the boat and remained for two weeks, during which he took the one classical drive to Thingvellir; and he came back to England on the following steamer. From what I saw of the man I made up my mind I would read those impressions of Iceland if it was the last thing I did on earth;

and the result proved that the trouble I had in getting them was not in vain! A bookseller in Turin sent me the letters as they appeared, and in my opinion they establish a record in journalistic effrontery. The man had the nerve to describe at great length and in minute detail, for the edification and instruction of his compatriots, his caravan journey on horseback right across the whole of Iceland, putting up at farm-houses, fording rivers, crossing deserts that have never even been attempted, climbing volcanoes and descending into their craters, etc. It was simply monumental, in the way of brass; but that word does not seem well chosen; it is not unusual for brass to be employed in the confection of monuments. One point, however, I am willing to concede, — that his letters constitute a really marvelous feat of the imagination; it cannot be an easy matter to write an entire book describing things you have never seen!

It behooves us, therefore, to look askance at travelers' impressions of the countries they visit; Paul Bourget, for instance, is said to have written his two volumes on the United States without any knowledge of English! But I think I can say that mine will have at least one novel feature. Most men who discourse about their voyages are foreigners, and either do not understand the language of the country they visit at all, or more or less imperfectly. My case, however, was distinctly unusual, for I came to view America as a native-born exile, twenty-six years having elapsed since I last saw its shores; and twenty-six years in the life of such a place as the United States are equivalent to at least a century in other countries. When I left New York in 1885 it practically did not extend above 59th Street; now it is built up solid for miles beyond the Harlem River! So that I wish it clearly understood that if this article has any excuse at all, which is, of course, an open question, it is based on this curious point, of being written by an American concerning his fellow-countrymen after a longer period of absence than those of either Odysseus from fair Ithaca, or of Rip van Winkle in the recesses of the Catskills.

The question was asked me a number of times: "What one thing has struck you most forcibly during the whole of your trip?" and once for all let me say that in speaking of impressions I shall mean *medical* ones throughout, and medical ones only; I saw no surgery at all, as that was not what I came for. For a reply to this I do not have to hesitate a moment: the extraordinarily high standard and excellence of the hospitals, and particularly of the best of those of New York City; nothing that I have ever seen can compare with the cheery, homelike aspect of Presbyterian, Roosevelt, St. Luke's, the Rockefeller Institute Hospital, and the new Post-Graduate Hospital, while to beautiful Mount Sinai I must confess I personally award the palm. The latter preference may possibly be due in some measure to special circumstances; I went over this institution on a magnificently clear, bright, very cold, winter day, the sunlight flooding the wards from

end to end; and my cicerone, it must also be said, was a most engaging and adroit person, who took care that I should see the best they had. But as well in its site as in its general finish and completeness Mount Sinai struck me as unequalled. The Hebrew citizens of New York are, I hear, both numerous and well-to-do; certainly if this hospital can be taken as an indication, they are only satisfied with the very best.

The features that impress the lotos-eater from abroad most forcibly in all of these first-class New York hospitals can perhaps be ranged under four headings: First, marvelous organization and team work; second, gift for discerning the practical side of everything; third, scrupulous cleanliness; fourth, the earnestness of every one concerned.

To take the last point first. Nowhere else have I ever experienced such a feeling of, — if you will excuse the expression, — all hands going about their duties "loaded for bear"! Everybody in these hospitals, from the colored man in the elevator to the urbane superintendent, seemed to be doing his level best; nowhere was indifference or loafing to be detected, on the surface at any rate. Until I got used to this novel situation I really never felt quite easy in mind lest in their enthusiasm some of these good people should try to make a case out of me *nolens volens*. Whenever I met a group of those smartly-groomed internes, with their clean-shaven, energetic faces, I could not help saying to myself as they sized me up: "They are evidently speculating whether I have not got chronic appendicitis; and I am quite sure that some of those dignified head-nurses, spotless in white from cap to shoes, turned over in their minds the possibility of my being a walking typhoid. In fact, the zeal of some of those New Yorkers was such that there were occasions when I certainly thought they would be the death of me. Thus they have a pleasing habit of taking the unwary visitor right out of a comfortably heated ward on to a roof swept by an icy blast considerably below zero. One fanatic held me motionless in such a place for a good ten minutes while he expatiated on various cases of pneumonia he was treating out there, until I felt that it would not be many hours before I myself would require a similar bed. With such a *personnel* as those hospitals possess it is impossible not to get results; and when certain — as at least it seemed to me — shortcomings in our hospital system are remedied, desiderata that I shall refer to in a moment, I can see nothing to prevent their leading the world, so long as the spirit that at present prevails can be maintained at the same level.

That the American hospitals should be clean is perhaps not a matter for great surprise; the Americans hold such a long lead over other people in cleanliness in their private houses, hotels, etc., that their hospitals could not but feel the effect of the general atmosphere of the community. But still, this does not prevent the fact that to a man brought up in such pestilential dens as the older Paris hospitals, the Pitié,

Laënnec, St. Antoine or Charité, the bright and attractive wards of the American hospitals, with their modern hygienic beds and fittings, their system and neatness, and their immaculate and intelligent nursing staff, come as a simple revelation. To my way of thinking, one of the most serious ills that can befall persons of restricted means is to have no alternative in time of sickness but to leave their homes and pass through their trials in the public ward of a hospital; but I must admit that, so far as I could see, everything that is humanely possible is done in our hospitals to mitigate this affliction, — in this respect can be mentioned the universal use of the movable screen when any special treatment is to be carried out, and the existence of separate rooms for very serious cases or approaching death. It would be a very interesting experiment to send the *surveillante* of a Paris medical ward over to one of our best institutions, Presbyterian, for instance, for a month; and let her see the minute individual care given there to common ward-patients, and the consideration and even affection with which they are treated. She would not lose her time.

Another point that attracts the stranger's attention at every turn, on his first visit to America, is the practical genius of the race; every means that a naturally inventive spirit has been able to devise to remove causes of irritation and friction from the course of daily life is there put into use, and this trait comes out strongly in the hospitals. In one of the private nursing homes in Paris with which I am familiar, a fairly good place, each successive patient complains loudly of three things, always the same: the ringing of electric bells, the banging of doors and the noise of steps and conversation in the halls. Now all of these drawbacks have been done away with long ago in the American hospitals by very simple devices; but they still exist in the place referred to, and will probably continue to do so until the crack of doom, although the chief medical man of the institution has been to America and must have seen that it is possible to organize things otherwise. This is simply one instance of the altogether different manner in which the two races go at the same problem.

The spirit of organization that prevails in our hospitals shows itself on every hand; perhaps as good an example of this as any can be found in the method used for filing patients' records. The thoroughness and serviceableness of this department in all of the hospitals fills one with admiration; and a visit to the record rooms of Roosevelt, for instance, or of the Lying-In, amounts almost to a liberal education. In this connection it is not possible not to refer to the care and completeness with which all of these records are taken and kept by the internes in the first instance. This *corps d'élite* is human, and as such undoubtedly has shortcomings; but among these is certainly no trace of congenital disinclination for work. The amount of solid toil that the chiefs manage to extract from this body of young men is something extraordinary, and to me absolutely unheard-of. And even at the risk of



répétition I wish to say that a so business-like, keen and well-put-up set of young fellows as those internes I have never seen; it is consequently perhaps not a matter of surprise that practically the entire management of the wards is turned over to them, the visits of the chiefs having seemed to me pretty often to incline rather towards perfunctoriness. Instances in which the attendant had to be prompted by the interne as to what the trouble was with a given patient were not unfrequent.

This brings us to what I cannot but consider as serious defects in our hospital organization: the short and intermittent service of many attendants, the fact that most of the prominent men hold appointments at several hospitals at once, and the curious system whereby a given ward is not a service in itself, but is divided up between two attendants; the result of all this is, if I mistake not, a certain superficiality on the part of a number of attendants, and a situation whereby in a given ward there may be at one time two chiefs, two assistants and six internes, all messing about and dividing up responsibility! I know that in these hospitals there reigns a spirit of *bonne camaraderie* that cannot be too highly commended, and that all hands visit and examine each other's patients in a manner that is greatly to be praised; but still, this system would not be a working proposition in any other path of life, and it seems to me that it must have equivalent drawbacks in hospital management.

As regards hospital medical practice in general, at home the point that the stranger notices at once is the unusually great predominance given to laboratory work, as against a possible lack of consideration for clinical examination of the patients. For instance, I was simply thunderstruck with the number of Wassermann tests I saw being made; blood-cultures and Widal tests seemed to me, like the Lord's rain, to descend from Heaven on the just and on the unjust in the most impartial fashion; while as for blood-counts, simple or differential, they were as common as temperature or pulse-taking and analysis of urine; in fact, in some hospitals there is a space arranged on the chart for hematological data just as for the three latter items. The final impression left on me by all this was that the diagnosis and treatment of a given patient depended more on the result of these various tests than on the symptoms present in the case. One physician in one of our large Eastern cities assured me that it was his rule to make a complete blood examination with every new patient he saw in private practice. Now we all know the time and trouble that a blood examination takes, and we also know that the working day can hardly be made to extend farther than sixteen hours; so how the ordinary practitioner would fare, provided he were anything like busy, if he followed this custom, it is difficult to see. There is certainly an element of exaggeration in all this. Nothing is more monotonous and uninteresting than a blood count; again, the conditions under which the information thereby

obtained is of real clinical importance are not met with every day in general practice, though certainly more frequently in hospital work. There, where the class of cases is infinitely more serious, and where there is a numerous and zealous staff, it is perhaps justified to talk of routine blood-tests; but in private practice, particularly among the well-to-do, who send for the physician nineteen times out of twenty for the veriest trifles, to claim that a routine blood-test is the attendant's duty is a thesis that is not tenable. In this view I found that my position was sustained by some of the best clinical men we have at home, — men of an older generation, who were trained rather as bedside observers, and had not spent quite such a large portion of their existence glued to the ocular of a microscope. I will grant that once in a great while a routine habit like this will detect something that no one would otherwise suspect; but instances of the kind are so rare, and the practical results of so little importance anyhow — for when you have revealed an unexpected leukemic process at an early stage, what are you going to do about it? — that they can hardly be considered to offset the immense amount of weary and sterile labor that the habit entails, — not to speak of the fact that with the perversity that characterizes things human, in the one-thousandth case, the one in which there is something in the blood, the test would probably be omitted, for one reason or another! As a proof of this I may say that during my visit to our chief Eastern towns I saw one case of leukemia, and heard of a second, where a surgical intervention had been made, in entire ignorance of the existence of this condition; and the patient that I personally saw had an enormous spleen and 212,000 whites! Both were hospital cases, and in strictly first-class institutions. So even with all our system and zeal, serious omissions can occur. But although it seemed to me that there is an awful lot of unnecessary work done in hematology in our hospitals, and much time wasted in that way that could be more profitably devoted to something else, it is an unquestionable fact that this branch has been much more perfected at home than over here, and that in cases where an examination really is indicated it is resorted to by the staff very readily and intelligently. An illustrative case comes to mind in this particular, — one that I saw here with an excellent surgeon not so many years back, in which in spite of two high blood counts he insisted that the trouble was enteric and not appendicitis and declined to intervene, the woman finally developing pylephlebitis and dying after six weeks of the most awful pyemic drama that I ever witnessed. I doubt whether this would have occurred at home, where so much more importance is attached to blood-findings.

I was naturally much interested in the roofoverward movement for infectious conditions, acute and chronic, other than tuberculosis. I saw this expedient in use pretty much everywhere, either in its purity, or in some modified form. The medical men appeared to be unanimous in its

favor, and they claimed that when once the patients had tried it they objected to being wheeled back into the wards, even temporarily, either for medical examination or for necessary nursing attention; I did not, however, get an opportunity to hear any patient's private sentiments on the subject, and I cannot disguise the fact that to put human beings dangerously ill out on a wind-swept roof in such weather as I experienced last January struck me as verging considerably on the heroic. At one hospital I found that the entire staff was sleeping out in the open in that same bitter weather; certainly no better instance than this could be cited of living up to one's convictions. But the whole conception is such a revolution in one's entire bringing-up, and so contrary to every accepted idea over here, that I fancy it will have great difficulty in making its way on this side of the water. I might possibly suggest the plan to an American patient; but in a French family I am afraid that such a proposal would result in a change of physicians in a remarkably brief space of time. In one large town of the Central States I was shown open-air roof-classes for children predisposed to lung trouble; but I must confess that with the piercing, glacial winds and murky, soot-laden atmosphere that prevailed when I was there, it seemed to me chimerical to expect any very great results from such a system. No one is a greater advocate of pure air than I am, or a greater believer in its merits, *when it is the real thing*; but to speak of open-air cure in an atmosphere so charged with filth as to necessitate for the ordinary mortal at least two collars and three or four handkerchiefs per diem in order to remain even approximately presentable, is to speak of that which is not.

There is one special branch of medicine that has shot far ahead in America whereas still in its infancy over here, and that is orthopedics, and in particular the statics of the pelvis and foot. I wonder, for instance, how many general practitioners in France could tell you what is meant by sacro-iliac strain; or how many would be capable of affording relief to a sagging arch by strapping? I was greatly interested in what I saw being done in this branch in the different hospitals, and I imagine that any young man here who would take the time to go to America, and post himself thoroughly in this specialty, would not have much trouble afterwards in making an excellent position for himself. But as an offset to this I feel pretty sure that there is another branch in which our men at home are a good deal behind the times, and that is in the x-ray examination of medical patients. Wherever I went I saw nothing but x-ray negative plates; in not a single instance did I see a patient carefully and leisurely examined from all points of incidence with the screen, as is currently done here, a method that gives results incomparably more valuable than any photographic negative. The combined use of bismuth and screen I likewise did not see, though I was shown negatives taken after the administration of bismuth which were

altogether misleading. Unless I am completely mistaken in my impressions in this particular, and this would be curious, in view of the length of time I was in America, and the many cities and hospitals I visited, our men have not grasped the extreme value of the screen examination to the physician, and its unquestionable superiority over any conceivable negative. I will venture to say that if some of our young radiologists would come over and spend a month and see what their colleagues in this branch are doing here, they would find a good deal that would be instructive to them.

There is next a para-medical subject that I wish to refer to, in connection with my visit, and I trust that my confrères will not take amiss the remarks that I shall make in this connection. I was horrified to note what poor and awkward speakers-in-public we American physicians are as a class. I did not hear a single man who could, at the best, be called more than an average speaker, while the greater part of them may fairly be classed among the very poor. Such ventriloquial mumbling, such labored delivery, such abandoning of impossible phrases to commence again along better lines, such substitution of one word for another, such incessant and exasperating interlarding of "ers" between every few words, it has never been my fortune to hear before. Now I know of course that the Anglo-Saxon is not by nature an orator, and that our tongue does not lend itself particularly well to speaking-in-public, a defect that has been intensified by the unfortunate nasal resonance that we Americans have introduced into the language; but still, it seems as though we ought to make a better showing than we do. We rise ill-at-ease, conscious, look at the infinite, plunge our hands deep into our pockets, so that by no possibility the saving gesture may escape us, and with impassive face and from between almost closed teeth proceed to utter far-away sounds somewhere back in the pharynx, — and this we flatter ourselves is oratory! When I was young I once had an Italian master who when driven to frenzy by the manner in which I massacred his beautiful tongue, the language of the gods unquestionably, used to run his fingers wildly through his hair and shriek at me: "*Ma aprirete la bocca, per l'amor di Dio!*" Is there then no way by which we English-speaking people can be induced to open our mouths, when addressing our fellow-beings? There was one prominent speaker who interested me particularly at an important medical meeting at which I was present. So far as I could detect, neither his facial muscles, lips nor teeth moved at all during his discourse, all visible action centering in the region above the larynx. The only thing that can be said about this style of speaking-in-public is that it has every defect possible, is everything that it ought not to be.

Last summer the great tragedian Novelli visited Paris, and the Franco-Italian Press Association organized in his honor a banquet at which about one hundred guests were present,

many of them very distinguished men. After the lunch there were of course speeches by *littérateurs*, journalists, members of the Academy, of the Comédie Française, etc., but none of them in any way out of the ordinary, considering what excellent speakers the French are as a whole, until finally an Italian rose in one corner of the room to make an address on behalf of the group of Italian journalists present. He was quite young, short of stature, and without any particular presence; so every one's first impression was that here was something to get through with as rapidly as possible. But from the moment the little man opened his mouth the audience sat spellbound; he was Cicero himself descended to earth: "*Quo usque tandem Catalina abutere patientia nostra?*" His speech was quite extempore, but each phrase was a model, evenly balanced, and in its proper order. His pauses were introduced at the right place, and were of suitable length. The richly vowelled words flowed from his mouth with the smooth current and self-possession of a mighty river, and, above all, he threw back his head and opened his mouth, — not one syllable escaped any one's ears in the entire room. Not once did he stumble over a word, or repeat or change one; and I am quite sure that there was not a single "er" throughout the entire performance, though it was a fairly long one. His gestures were sober but to the point, and he *did not* put his hands in his pockets. Finally, he accelerated the pace somewhat and delivered his peroration, whereupon he sat down with an air of the utmost unconcern and busied himself with the confection of a cigarette. Well, you never saw an audience carry on as that one did, — they had been swept clean off their feet; they clapped, and braved, and waved their handkerchiefs, and got up on chairs to look at the little speaker, and it seemed as though they would never finish applauding. He poor man, appeared altogether overwhelmed by his success, and had to be hustled out of his seat by his colleagues before he would rise and bow his acknowledgements.

Now how was this extraordinary feat accomplished? This journalist was a Latin, of course, and spoke Italian; this I grant is an incalculable advantage at the start, if you have to make a speech. But once that admitted, why did he do so wonderfully well, and without any perceptible effort, what the rest of us do so badly? Simply, I imagine, because he was totally lacking in self-consciousness. That assembly affected him no more than if he had had a friend at home by his fireside; he had something to say, and was so wrapped up in bringing it out that the people before him ceased to exist, his words flowing quite easily and naturally. And finally, do not forget: he held up his head, took his time, and *opened his mouth!* This formula supplies, — with a lack of self-consciousness, and also on the supposition that you really have something to say, — a pretty good working basis for an orator. It may be that I am severe in criticising our style in this way. Medical speaking in Paris is mostly

of a high class; I have known several men at the Faculty, indeed, who could fairly be ranked as orators of the first order, — Poirier and Dieulafoy, for instance, to cite only those who are gone, — so that possibly I have been spoiled. But even when every imaginable offset is taken into consideration, the fact remains that we are shockingly bad speakers, and it is high time that something was done to attempt to remedy our shortcomings in this respect.

Now although I have already far outstripped the limit of space to which I can reasonably lay claim for these "impressions," there are still a few remarks that I should like to make, since I am on the language topic. An English visitor once observed, when questioned on the subject on his return home, that he was not prepared to say exactly *what* language was spoken in the United States, but that it was certainly not English. This seems a rather remarkable statement, but there is really more truth in it than appears at first sight, for the language that the traveler hears about him as he moves around in America is unquestionably a queer tongue. This subject can be considered from various points of view: accent, grammar, pronunciation of classical words, slang, spelling and style. The nasal twang and hard enunciation of certain syllables has now reached such a point with us in different sections that I imagine that nothing could possibly be more dissonant to the ear. Thus there is almost as wide an abyss between the language of a cultivated Englishwoman and of a working woman in Chicago, let us say, — for it was certainly there that I heard the most atrocious accent, — as between English and Dutch. Our constant use of slang and vulgar expressions, even by people who through position and education ought to know better, has become a really serious matter. The ordinary grammar of the speech of the people at large is shockingly lax. The spelling adopted by the medical press is something execrable. The composition and style of a great deal of the material in our professional papers is very crude. And the pronunciation of classical words, even by professors in the lecture rooms, is characterized chiefly by variety and uncertainty. The random way in which these men lay the stress on syllables, or shorten or lengthen vowels at their own sweet will, is quite remarkable. One of them, for instance, at whose lecture I was present, referred to the condition of the "âpex in pool-monary consumption"! In another city I found the entire medical corps talking about their "stummiks"! Are these gentlemen entirely lacking in classical education? The caustic remark, then, of the English visitor mentioned above was unfortunately founded on solid fact, and there can be no possible doubt that if we continue in the style now in general use we shall ultimately find ourselves in possession of a language the relationship of which to that wonderful literary heritage, the English tongue, will be at the best a remote one, — and the more's the pity.

Of the different special customs that strike the visitor's eye in America no one perhaps arouses more wonderment than that of chewing gum. And the fact is that this practice is not an easy one to explain. It is altogether anti-physiological, the gum loses its pleasant flavor in a very few moments, and the habit can only be considered as a very unsightly species of "tic." It is excusable that the poor, underfed shop-girl should attempt to solace her empty stomach with a good chew of gum while she reads in her dime novel of princesses and millionaires as she hurries down town in the subway to her work in the morning. It is also excusable (in my opinion) that men who have such a trying, nerve-racking job as that of conductor on a New York transportation line, whether subway, surface-car or elevated, should derive such comfort as can be obtained from a practice of this sort, — which is at any rate less harmful than that of chewing tobacco. But it is simply ridiculous to see the massive jaws of one of those huge Fifth Avenue policemen grinding steadily away as he stands on duty among the traffic. If I were chief of police, nonsense of that kind would get but a very short shrift!

This trip of mine was incidentally the means of relieving my mind of a weight that had lain on it for many years. I had always regarded as a species of personal injury the fact that in the *Odyssey* there should be an error in such an everyday matter as that of the age of a dog. On his return to Ithaca after twenty years' absence Odysseus is represented as having been greeted by his aged hound Argos, who thereupon lay down and expired. Now for that animal to have recognized Odysseus after such a lapse of time, he must have been already one or two years old at least before his master departed for Troy; consequently at his death his age must have been fully twenty-one or twenty-two years. But every one knows that nowadays a dog very seldom lives for more than twelve to fourteen years; therefore the *Odyssey* story always seemed to me to be a glaring misstatement of fact. We have in Paris a large dog-cemetery, where several thousand animals are buried, with tomb-inscriptions. I once went over these very carefully and found that the maximum of age recorded was seventeen (three cases). But when I was in Philadelphia recently a man told me as a positive fact that he had known a dog live to twenty-two! So I consider that my trip to America has also resulted in rehabilitating the venerable Homer's reputation for veracity.<sup>1</sup>

I furthermore profited by the enforced leisure on the boat going across to read over again from beginning to end, in Butcher and Lang's prose translation, the story of the checkered experiences of my great predecessor, Odysseus, — for was not I, too, returning to high-battled New York after twenty-six years' absence? And I was surprised to find what an interesting tale it makes when perused in that continuous manner. The way in

which we used to take it in sections at college gives no idea whatever of what the great poem really is.

In closing this article I cannot refrain, — even at the risk of giving umbrage to some of my hosts, — from referring to the charming manner in which they welcome the stranger within their gates. I knew, of course, that the cordiality and hospitality of the American medical corps were proverbial: every one who had been over there had told me that; but the warmth of their actual reception far exceeded everything that my fancy had pictured, and I discovered that in reality our confrères at home have established a standard in these matters that is altogether special to themselves. Not only did they, as I remarked in the beginning, take endless trouble to meet, in fact generally to anticipate, my every wish, but their ideas of material entertainment are conceived on such lavish lines as to positively jeopardize existence. The two of us, — for I travelled with a surgical friend, — did manage to get back to Europe alive, but that was not our hosts' fault; for these gentlemen certainly brought to bear every gastronomic device available at that thankless season of the year to terminate prematurely two promising careers and to create two unexpected vacancies in the ranks of this overcrowded profession!

#### CAUSES FOR FAILURES IN TREATMENTS OF CHRONIC JOINT DISEASES, AND SOME SUGGESTIONS HOW GREATER SUCCESSES CAN BE ATTAINED.

BY H. W. MARSHALL, M.D., BOSTON.

(Continued from No. 21, p. 764.)

#### WAYS IN WHICH GREATER SUCCESSES IN TREATMENT CAN BE ATTAINED; AND OTHER CONSIDERATIONS.

POSSIBLY the importance of lack of skill does not impress itself very strongly upon any one from first perusal of the examples that have been cited; and many persons will say truthfully that such defects always will exist, that diagnoses will continue to be made improperly, and remedies administered unskillfully in the future.

Furthermore, many will think that attempts at making individual variations in treatments to suit individual needs of patients are too complicated ventures; and that practitioners never will attain sufficient skill to deal satisfactorily with such physiologic defects which require very great precision in applications of remedies.

It may be urged by some readers, too, instead of trying to solve intricate, unsatisfactory physiologic problems of treatment, that the importance of preventive measures and avoidance of complicated methods by simple new discoveries should be emphasized.

Advocacy of prevention and of treatment of incipient stages of disease, rather than dependence wholly upon cures of advanced cases, undoubtedly is a desirable attitude for the medical profession to take; and prevention of arthritis by education

<sup>1</sup> A person of unquestionable accuracy assures us that a dog owned in his family in Scotland lived to the age of thirty years. (Ed.)

of the public through campaigns similar to the one instituted against tuberculosis might be urged by some enthusiasts. Yet notwithstanding such aims and views it seems probable that all examples of joint disease will not be prevented, and that many patients will continue to suffer, and to demand relief from their sufferings. Therefore physicians in the future probably will still have need of their skill for relief of advanced cases of arthritis.

While it is true that alluring ideas of new discoveries, simple of application and serviceable in many conditions, fitted to supplant many existing difficult methods, linger in some medical minds now as fancies of marvelous springs of perpetual youth lurked in those of early Spanish explorers, and which they sought for in the New World; yet the facts of the situation are, however, that new ideas and remedies, aside from a few exceptions, are tending to become more complex instead of more simple. Bacterial vaccines, for example, have compositions that are still unknown; and difficulties attend their administration so great as to restrict their use as curative agents for these reasons. Important discoveries like Ehrlich's "606" cure for syphilis are possible only with few persons who possess the extensive knowledge needed for such investigations, and who have laboratories with efficient corps of assistants to carry on the great amounts of work required in preparation, and experimentation upon physiologic actions of hundreds of chemical compounds. Large amounts of thought and labor are represented in the perfection of this one single specific substance.

Original investigations must continue as long as progress does, yet lack of new methods does not constitute the only cause for failures of treatments. All methods, new and old, are based upon physiologic and biologic principles, and all eventually are limited by practical difficulties in applying these essential ideas.

Physiology and biology are unavoidable, and increased knowledge of their main facts consequently appears more and more to be of greatest practical value when treating diseases of human living tissues, and as refinements in methods are made.

Therefore it seems the writer's contention should be admitted that physicians' lack of skill in applying physiologic and biologic principles to diagnosis and treatment constitutes one of the very important causes for failures, and is among the ways greater successes in treatments can be attained in the future as these deficiencies are more or less successfully rectified.

*Special and personal hygienic measures.* — All cures can be included in these two groups, and both phases, special and hygienic, would exist in methods used with every case of arthritis except for the fact that etiologies of many joint diseases unfortunately remain either entirely unknown or very obscure. Accurate diagnosis of different underlying factors acting as special or general causes, therefore, cannot be made always with

certainty during early stages when therapeutic measures are most effective.

Such patients with origins of their troubles enveloped in obscurity must depend upon general measures alone for their cure; and the great value of personal hygiene in presence of so many complexities as are exhibited by joint diseases should therefore need no further emphasis. Nor should the importance of certain special remedies at times overshadow the realization that general measures always are of use in all instances, although their combined influences are of relatively lessened importance when very efficient special remedies are at hand. The two phases, special and general ones, of every treatment can be conveniently illustrated by tubercular arthritis.

The origin of tubercular joint lesions is known, and specific tuberculins have been prepared from the species of micro-organism which causes the disease; yet none of these recent preparations have supplanted the use of older reliable remedies. Personal hygiene, orthopedic appliances, local applications and surgery are the most satisfactory measures now, as they also were previously.

Special measures in this instance are illustrated by orthopedic appliances, local applications, surgery and tuberculins. General hygienic measures include combinations of fresh air, sunshine, tonics, good food, rest, living out-of-doors, etc.; and the great emphasis laid upon personal hygiene in the crusade against tuberculosis indicates the opinions of those men who are most acquainted with tuberculosis in its various manifestations.

Tuberculin, however, has proven itself valuable in differentiations of obscure cases; and theoretically, at least, indirectly increases efficiencies of treatments by permitting earlier diagnoses, thus allowing prompt attention to be given to measures that are effective. But many physicians, including the writer, are unwilling yet to use tuberculin as a curative agent, on account of the difficulties in estimating biologic resistances of individuals to it; and they consider that more harm than benefit comes from its use in the special form of chronic tubercular arthritis with our present degrees of dexterity.

*Special treatments.* — Recognition is given that special new discoveries probably will influence cures to important degrees; that new vaccines and reactions of sera may enable earlier diagnoses to be made; that new specific chemical agents like salvarsan are extremely desirable, and extend the hope that other diseases may be attacked in similar ways; that diminutions in content of purin bodies should be advised for diets in gout; that mechanical irritations should be treated with mechanical immobilizations; that knowledge of biologic reactions of body tissues and understandings of special vascular constituents should be increased, and that new special discoveries always ought to be encouraged, etc. But aside from these many special matters, however, insistence again is laid upon the paramount value of personal hygiene, and of the great prevalence of its defects.

*Personal hygiene.* — This brings to mind ideas of fresh air, sunshine, good food, rest, outdoor exercise, regulations of habits, etc.; and also it should recall that hygiene, the science of health and of its preservation is directly dependent upon physiology. With arthritic patients physiologic ideas of diagnosis and treatment of joint lesions already have been dwelt upon. These are matters both of physiology and personal hygiene; and hygiene includes ideas of dosages, rates, kinds, combinations of remedies, etc., that are details of physiologic administrations. The two phases, hygienic (clinical) and physiologic ones, ought to be understood distinctly; and the truth of the matter recognized that they deal with the same combinations under different terminologies.

Exact differences between special treatments and hygienic ones also will be pointed out. Hygiene deals with various stimulations and corrective measures whose combined effects constitute its main characteristic. Typically it means many mild stimulations and slight corrections among many different tissues, details that usually are insignificant individually and of approximate equality. Combinations of all, however, exert a favorable, very strong influence upon the general condition and vital resistance of the individual.

If one of the many trivial defects in hygienic factors increases, and there are very obvious disparities between its influence and other combined defects, so that the clinical picture is dominated by the single element; this one, then, is designated by a special name and constitutes a specific disease. Furthermore, because of its prominence, it is likely to be studied carefully, special agents and methods of administration being found that are used in its treatment.

Differences, therefore, are that special therapeutic measures exert their influence upon single defects; and general hygienic ones exert their effect upon the whole organism, depending upon combinations of many special agents and corrective measures. There should be no confusion over the fact that special treatments which have been evolved from study of special conditions are used also to correct minor defects of the same nature as the more serious troubles which led to their elaboration; and that, therefore, they are included in general hygienic measures, too.

The nature of personal hygiene being understood, it should be stated again that hygienic combinations act mainly by improving healthy proportions among constantly varying vascular constituents, and by regulating the quantities of blood distributed to different parts.

*Illustrations of hygienic defects and of hygienic action.* — There are many examples of benefits resulting from combined measures, and of particular single corrections among the others that are especially concerned with ameliorations of symptoms. And some single features which are near the dividing line in importance between special and combined treatments cannot be

dignified with the name of special ones, as, for example, simple regulations of diets and of eliminative functions.

If regulation of diets is intended, over-feeding or under-feeding alone does not fulfill hygienic requirements. Recently the combination of circumstances presented itself to the writer of a young woman who was rapidly gaining weight and strength at the same time she was developing quite severe joint pains. Upon inquiry it was found she was consuming unusually large quantities of eggs and milk by her physician's orders, to restore her vigor after an attack of typhoid fever. She had recovered from the fever several months previously.

Moderate reduction in amount of food taken, prevention of too much absorption from the colon by clearing the bowel frequently and increasing urine elimination promptly relieved the joint symptoms completely in this instance. She was successfully putting on flesh and increasing in strength at the time, but probably was eating more than her intestinal mucosa could take care of after its conflict with typhoid toxins, and after slight impairment possibly of its protective function from the fever. The patient looked strong and very healthy, yet too large quantities of intestinal putrefactive products apparently were getting into the circulation for her particular joint resistances to react normally to without symptoms.

Absorptions into the blood stream from the bowel can be diminished by reducing or changing the nature of diets; by hurrying the food through the alimentary tract and not allowing excessive quantities to remain long in the colon and there undergo putrefactive changes; and by stimulating normal digestive and protective functions of the intestine and accessory organs.

Colon irrigations of warm water have an advantage over cathartics frequently on account of the fact that small quantities of water, which are left in the bowel after lavage, are absorbed and help to increase eliminations through the kidneys.

Occasionally the scanty taking of water is the simple hygienic defect whose correction is promptly followed by subsidence of joint symptoms. There are a good many arthritics who drink very little water and whose urine is scanty in amount, although they do not realize it; and as a matter of practical importance the quantity excreted every twenty-four hours should be definitely ascertained by measurement. Then consumption of water is prescribed until there are decided increments in volumes of urine. Such administrations presumably help to remove excessive quantities of irritants from the blood, of intestinal origin, so that their proportions are kept below concentrations that produce harmful changes in articulations.

Among other matters of importance in personal hygiene are the familiar influences of increased muscular exercise and its accompanying respiratory changes. The blood temporarily receives larger quantities of waste products from working muscles to be eliminated through kidneys, lungs



and other excretory channels; and exercise causes an increase in appetite and taking of food to replenish food elements of the blood that have been used up. Important changes in metabolic activities are known to result from such exercise, and are accompanied necessarily by temporary rearrangements in proportions of vascular constituents; but the reader must be referred to physiological textbooks for details of these phenomena.

The great value of hydrotherapy and massage, dealing as they do with stimulations of exceedingly important cutaneous and muscular structures, must not be overlooked among hygienic measures; and they should be included among the more important special treatments used hygienically.

All important tissues are influenced by thorough hygienic treatments into responding vigorously and normally, so that the common carrier for all organs, the blood, in consequence presumably contains most healthful proportions of its normal constituents and diminished proportions of deleterious ones.

Recognition that health is a matter of physiologic balance and that it depends upon relative proportions among vascular constituents is a matter of great moment. Ratios between organ activities seem to be of more consequence than individual degrees of activity. For example, diets may be very generous, marked intestinal putrefactions exist, and very considerable absorption of putrefactive products take place into the blood stream without development of joint manifestations, provided eliminative functions are equally good and that concentrations in the blood never reach proportions in which they harmfully influence articulations.

Again, the ratio between joint tissue resistances and quantities of irritants in the blood stream is a matter of greater importance than absolute amounts of such vascular irritants. As an illustration, when joint resistances are very great there may be large quantities of toxic substances in the circulation without symptoms; whereas with low vital resistances of the joints much smaller proportions of irritants in the blood may be causes of pathologic changes in these particular tissues.

It seems, therefore, that diets must be very carefully regulated to prevent absorptions when eliminative functions are poor and local articular resistances also are weak; while on the other hand it may be impossible to produce arthritis in persons who have very resistant joints and very good eliminative powers; and in them it does not matter how severe intestinal putrefactions are as far as healthy joint balances are concerned.

*Treatments of special types of hypertrophic and atrophic arthritis.*—Like tubercular arthritis of known origin, hypertrophic and atrophic types of unknown etiologies are treated by general hygienic measures, special local protective appliances, manipulations and surgery. There are, of course, some important minor

modifications of these common measures as they are used in the different types; yet there are marked similarities among the different ones, and reasoning from the fact that other infectious types of chronic arthritis with resistant bacteria entrenched in the tissues often do not respond, therapeutically, much better to vaccine treatment than chronic tubercular arthritis does to its vaccines, it will not be surprising if similar states of affairs are found to exist with atrophic or hypertrophic varieties provided they are proven to be of zymotic origin.

There are a few facts which warrant the suspicion that the nature of hypertrophic and atrophic varieties may possibly only await perfection of new bacteriologic methods. Smith and Fabry,<sup>1</sup> for example, have discovered a very minute species of micro-organism pathogenic in cattle which produces localized bony hypertrophies and peri-articular swellings when inoculated into guinea pigs. This micro-organism is so small that it can easily escape detection in the tissues when present in scanty numbers, and, moreover, it does not develop when grown under usual conditions upon nutrient media. Some other similar one which is still unknown can be imagined, theoretically, with plausibility to be the cause of a variety of hypertrophic joint changes observed in people.

There are some doctors who doubt the existence of distinct hypertrophic and atrophic types of specific unrecognized origins, and would explain all these appearances as due to actions of various common bacterial substances or internal secretions acting upon joints.

The writer is inclined to the opinion of other investigators who are ready to believe that some sorts of chronic overgrowths and atrophies perhaps may occur from common causes, but who also think that additional unknown specific ones will be discovered for certain obstinately progressive, severe types.

Because the list of pathogenic bacteria is slowly increasing as advances are made in bacteriologic methods; and on account of the latter methods being still rather limited in number and variety; also when some diseases are proven to be transmissible from animal to animal by fluids that contain no visible formed constituents; and when some workers in cancer investigations are suggesting theories of intracellular sub-microscopic organisms as causes of these pathologic appearances, it seems easier to imagine that additional elements of parasitic nature introduced into the body from the outside may be discovered in the future to account for infectious fevers of unknown origin, and for such slowly developing, stubbornly progressive, articular defects. It seems more plausible to assign their cause to such origins than to metabolic or neuropathic disturbances or unusual manifestations of well-known micro-organisms.

Although some investigators would call upon

<sup>1</sup> Theobald Smith and Marshall Fabry: Ueber die pathogene Wirkung des Bacillus abortus Bang. Centraltbl. für Bakteriologie, Parasitenkunde und Infektionskrankheiten. Erste Abteilung. Jan. 6, 1912, p. 548.

disorders of nervous system or of internal secretions to explain certain joint conditions, it seems that back of these causes there are likely to be still more remote ones for the sudden breaking down of normal vital activities of nerve cells or cells of internal organs when these are origins of arthritis. It is easy to imagine that some unknown parasitic organisms gain access to the body, or reside in the lumen of the intestinal canal and there contribute their products to the blood through this important portal of entry, and that these are the primal factors in such late developing and persistent joint changes.

Also it is easier to suppose that certain remote causes act indirectly through nervous structures and other organs rather than to believe in the alternative supposition of normal activities of nerve cells or those of body tissues abruptly becoming abnormal so commonly in adult life from causes wholly within themselves. These are simply matters of conjecture, of course, but seem better than no ideas at all.

#### *Vaccine treatments for chronic joint conditions.*—

One can picture the healthy reaction of severely overtaxed tissues as hygienic measures are effectively instituted; and imagine the relief to the joints when inflowing blood contains proportions of irritants diminished below limits at which the latter begin to exert their harmful effects, and when the blood contains increased percentages of normal healthy constituents.

Nor does it appear extraordinary that introduction of toxic bacterial substances, which set body tissue cells working actively and draw upon their reserve resistances, should not be as efficient in restoration of health as improved vascular relations induced by hygiene. Hygienic vascular conditions act continuously and beneficially without violent reactions such as are noticed after some vaccine treatments.

In order to gain desired therapeutic effects with vaccines of increased antagonistic qualities in the blood toward specific micro-organisms, tissue cells must be irritated by such bacterial poisons; and it seems rather severely taxed in chronic disease in order to get reactions sufficiently great to overcome the resistant bacteria. Micro-organisms of chronic diseases are survivors of previous engagements with their host, and have intrenched themselves in the tissues; so that there are dangers of overstimulating the latter, and exhausting their vitalities to a very harmful degree without eradicating the invading parasites. Failures of vaccine treatments, therefore, occasionally presumably mean subsequent accelerations of growth of the micro-organisms that are present, and these periods of increased multiplication of bacteria perhaps wouldn't have occurred if vaccines had not been used.

When dealing with vital resistances of tissues that cannot be estimated accurately or quickly, and when bacterial parasites are known to have high resistances, it seems wiser to cling to measures of hygienic character that are less likely to

do harm if they do no good. It seems safer to influence favorably all normal processes within the body, known and unknown ones, through hygienic combinations than to gain desired results by incompletely understood specific irritants; by toxic substances that may have additional harmful effects, unrecognizable at first, in addition to the properties for which they are administered.

Admission must be made, however, that there are slow, steady gains at times in affected joints when patients are undergoing vaccine treatments. These gains are due apparently to these measures, but in the hands of less skillful administrators the tissues become fatigued and tissue resistances are lowered; moreover, skeptics can say that beneficial effects are mainly due to hygienic measures that are simultaneously carried on. Although vaccines have proven their value in some acute diseases, the limits of their applicability have not been well defined yet, and therefore it seems to the writer better to rely for the present mainly upon hygienic measures in chronic arthritis.

(To be continued.)

### Symposium.

#### FOURTH MASSACHUSETTS CONFERENCE ON TUBERCULOSIS.

##### INTRODUCTORY REMARKS ON OPEN-AIR ROOMS.\*

BY JOSEPH LEE,

Member Boston School Committee.

WHAT is most important in this matter of open-air rooms is a general recognition that treatment rather than diagnosis is the important thing. All rooms should be fresh-air rooms. All children need to breathe. It is not important whether they breathe because they are sick or because they are well. They are air-breathers in either case.

Even if we were to confine our attention to the anemic and other delicate children, it would still be necessary that all the rooms should have fresh air, because these delicate children are not found in squads of forty, each in a single building in a single grade, but are scattered through the grades and through all the schools, sometimes one, two or three in a room. It would cost the City of Boston about \$100,000 a year to look after the anemic in separate rooms, whereas the same thing can be done at little or no expense by opening the windows in every room. We should, it is true, incidentally improve the health of the children who are already well, but that is a result from which we need not recoil.

The great use of an open-air room is to serve as an object lesson as to the effect of open air upon school children. Now and then we get sensational results like that of the boy who has gained twenty pounds this year in one of our open-

\* Abstract of address before the Fourth Massachusetts Conference on Tuberculosis, Boston, March 22, 1912.

air rooms. A more typical result is in a fresh-air room (that is, a room where the windows are kept open, but nothing else is done), where the attendance since the windows were opened has increased from 94½ to 96½%. Of similar significance is the experience in an open-air room where the children have bags, but dislike to wear them, where the temperature ranges down to 50, and where there have been no colds now for the last two years.

Of course for the children with tuberculosis there ought to be a fuller fresh air, or rather outdoor, treatment, and I believe that much is still to be worked out in regard to such cases in Boston and elsewhere. But important as these are, I return to my general proposition that we ought not to continue our American practice of not looking after the child's health until he is sick, running parallel, as it does, to our not looking after his morals until he has committed a crime. The main thing to be done is to improve the health of the children who are still well by giving them air to breathe.

Perhaps the rooms where nothing special is done except to open the windows are most important because they present an example that can be universally followed.

What is keeping us back now is the general fear of fresh air on the part of the community at large. Every one who will keep his office windows open and note the difference upon his working hours and upon the number of colds he has will help the cause along.

#### OPEN-AIR ROOMS IN SPRINGFIELD.\*

BY RALPH B. OBER, M.D., SPRINGFIELD, MASS.,

*President, Association for the Prevention of Tuberculosis, Springfield.*

THOUGH much has been written about open-air schools during the last two or three years since the establishment of the first school in Providence, — and many such schools have started throughout the country, — in hopes that some of the audience are not familiar with the modern school and its workings I intend to give a brief description of the one established in Springfield the latter part of last year.

I believe a regular outdoor school is much preferable to an open-window school. In the first place, it is built for the purpose of demonstrating the value of fresh air. This the children appreciate. They also come to feel the value of regular food and systematic rest. It differs from the ordinary school much as sanatorium treatment differs from home treatment. Children are kept under control all day and from the start hygiene goes hand in hand with education. There has always been a contest between physicians and teachers, but in this open-air school harmony exists and doctor and teacher both become enthusiastic. While I am speaking of enthusiasm, let me say that practically every one connected with these schools gets the same interest.

The Springfield Association for the Prevention

of Tuberculosis considers the open-air school its best asset. It does more teaching, it causes more thinking, it draws more sympathy and interests the general public more than any other branch of work in its fight against tuberculosis.

The interest in Springfield came to a great extent from the successful school in Hartford and from that excellent book of Mr. Sherman C. Kingsley, of the United Charities of Chicago, published by the Elizabeth McCormick Memorial Fund. At the time of the publication of this book, the school committee purchased one for each school in the city. Interesting articles appeared in the press from time to time, so when the opportunity came for establishing such a school there was little prejudice against it, as was evidenced by the fact that a list of over one hundred children was presented to fill a school of thirty-five capacity.

At a meeting of the Anti-Tuberculosis Association in August, 1911, it was voted to expend not over \$750 to initiate this project. The school committee voted to furnish teachers and educational equipment for the school, and the committee on city property agreed to equip the building with desks and chairs. Site was chosen in the rear of the Lincoln School, one of the city's newest and best schools. The use of two large basement rooms was given by the city property committee, one of which was equipped by them as a dining-room, with one corner panelled off for a kitchen. The other room is used as the rest-room, with a corner panelled off to accommodate shower and tub bath and wash bowls. The school committee and committee on city property voted to co-operate in this enterprise at the request of the Anti-Tuberculosis Association, and there was little if any opposition.

The building, as you see from the photos, is a low, bungalow type building — 20 feet by 30 feet, — 8 feet high at the sides, 12 feet in the middle. Around the sides to a height of one and one-half feet runs a panelling to prevent foot-draughts. The building is protected on all sides by awnings, which raise from the bottom up, running on rods by means of metal rings sewed to the duck. The base of the awning is secured tightly to the water board on the panelling, and the whole awning works by means of pulleys. It has shown itself to be storm-proof. A 20-foot platform adjoins the building, — for games and exercise. The building is set on short brick columns laid in cement. It faces east, with the long sides on the south and north. This enables children to get the full value of the sun shining over their shoulders and not in their faces. The building is shingled and stained dark oak-brown. The awnings have dark brown stripes, giving the whole an attractive appearance. The cost of the building complete with awnings was \$550. Its construction was supervised by the agent of the city property committee at no cost to the association. Emphasis was laid on the purpose for which the school was built, and in most cases wholesale prices were obtained on materials used.

In the rest-room special cots were provided,

\* Read before the Fourth Massachusetts Conference on Tuberculosis, Boston, March 22, 1912.

made to order by a local firm. The cot is shorter than the adult cot, with head slightly raised. They cost us \$1.10 each. Army blankets were furnished (two to a child). Each child has a pair of very heavy felt boots for winter wear.

The dining-room contains two long rectangular tables with benches for seats. The tables are covered with white oil cloth. The kitchen contains the usual cooking implements, a gas stove, sink with hot and cold water and plenty of shelf room for dishes and supplies.

The school is maintained by the Anti-Tuberculosis Association and the school committee, the latter furnishing the teachers and educational materials. The association hires a cook, who is in charge of the dining-room.

A visitor from the Anti-Tuberculosis Association visits the school frequently and has charge of the buying of food. The cost per pupil averages between 11 and 12 cents for actual food. The cost including services of cook raises the rate to 15 cents per capita for two lunches and one dinner. Food is the simplest possible compatible with a sufficient caloric value. A sample day's menu would be,—

Breakfast: Oatmeal and milk, bread and butter.

Dinner: Beef stew, mashed potatoes, bread and butter, milk.

Supper: Cocoa, Indian meal mush, bread and butter.

A brief program of the daily routine is as follows:

Breakfast,	8.30- 8.55
Recitations,	8.55- 9.40
Physical exercises,	9.40- 9.45
Recitations,	9.45-10.20
Recess and physical exercise,	10.20-10.40
Recitations,	10.40-11.30
Preparation for dinner,	11.30-11.45
Dinner,	11.45-12.15
Rest and sleep,	12.15- 1.15
Play,	1.15- 1.30
Recitations,	1.30- 2.25
Recess and physical exercise,	2.25- 2.45
Recitations,	2.45- 3.30
Supper,	3.30- 3.45

The children are selected from the various schools by the medical inspectors, then referred to the open-air school for complete physical examination, where the most suitable cases are selected. In addition to anemia and malnutrition, a few children have been admitted who showed nervous symptoms, such as chorea or marked inability to attend the ordinary school.

In the latter class comes one boy who has been unable to attend regular school for more than two or three months a year owing to eye trouble and marked nervousness. He has been a steady attendant now for three months, is showing marked development mentally and yet the only change has been that of attending this school.

The children are not chosen entirely from the poor. Several of our pupils come from well-to-do families. It seemed to the association that the problem was one of health and not of poverty.

On this account no prejudice exists against the school because of charity.

It is intended to issue meal tickets in the near future and charge all alike. If on investigation it is found that some cannot pay, this charge will be abated. In each case, the social visitor of the association visits the home, endeavoring to improve the home conditions. In this way the financial standing of the family can be fairly well judged. As the children cannot know who pays and who does not, the same standing will be preserved.

At present the gifts of enthusiastic parents in the line of food and other materials show a generous interest.

As to results, the school has been open only thirteen weeks and, therefore, there is little to show. An average gain in weight of 3 lb. has been made. Capricious appetites have yielded to the regular school diet, and one rarely hears complaint. This, in some cases, extends to the home, and the child long used to special dishes now eats what the rest have and is satisfied. Children hate to leave the school and there have always been cases waiting for admission.

In addition to the open-air school, Springfield has an open-window room, of which I show a picture. The teacher tells me the children are harder to manage than in regular school because of increased activity and alertness. Colds have been less prevalent in this room than usual and the number of contagious diseases seems to have fallen off. In the near future there will be many open-window rooms in the city.

As to the cost for this open-air school, it is considerable. Yet it seems worth the money. A city of 90,000 would not, at most, need more than two such schools, and they are of real benefit to the community. In the future the advent of open-window rooms may prevent children reaching the stage requiring this semi-sanatorium treatment. Until then these schools can be used as nuclei for demonstrating the value of fresh air to the public at large, and thus indirectly help the fight against tuberculosis.

In closing, I wish to quote a remark from the "Open-Air Crusaders": "A state which spends every year \$1,187,000 in educating children who die of tuberculosis before reaching their twentieth year can well pause to consider the money value of preventive work."

#### OPEN-AIR ROOMS.\*

BY HENRY D. CHADWICK, M.D.,

*Superintendent, Westfield State Sanatorium.*

PREVIOUS to 1910 there was no sanatorium provision for children under fourteen years of age. In that year the sanatoria at North Reading, Lakeville and Westfield were opened and a few applications were made for the admission of young children having pulmonary tuberculosis. A few children have been cared for at each of these sanatoria, but their admission was not encouraged

\* Read before the Fourth Massachusetts Conference on Tuberculosis, Boston, March 22, 1912.

because it seemed undesirable to have adults and children in close association in the wards. It was soon found, however, that it was much easier to care for several children than for one or two. When in groups they were more contented, kept by themselves, and annoyed the other patients far less.

The first of this year the trustees decided to send to Westfield all children who made application, provided parents would consent to their going so far from home. By segregating as many as possible in one institution, a school could be maintained. Therefore, in January, a school session of two hours daily was begun, with an attendance of from ten to twelve children. One of the adult patients offered to act as teacher. Most of the children were eager to begin and attended willingly. Although they were patients in the sanatorium, and, therefore, ostensibly invalids, they developed sufficient animal spirits each day to make it difficult for this volunteer to maintain order. Considering that this teacher, except for two hours a day, was one of their own number in the family of patients, this was not surprising.

The number of children admitted gradually increased until we now have at Westfield twenty-six patients from five to sixteen years of age, or 15% of our whole number.

On March 11, a trained teacher was employed and the school work is going on in a very satisfactory way. One section of the women's pavilion is now occupied with children, and in one end of this a school session is held from 9.30 to 11.30 daily, except on Sunday. There is an intermission of ten minutes for lunch. After dinner the children lie on their beds until 2.30. Another lunch is served and the teacher then takes them under her charge until 5 o'clock. This period is spent out of doors, playing games and tramping about the fields, woods and brooks. The teacher is kept busy answering a steady stream of questions which begin with "what" or "why." The children from the cities who have never seen a pine cone or picked a pussywillow do not have to be urged to attend these afternoon periods of real nature study.

The time when a child patient begins school work depends entirely upon their physical condition, and of course frequent interruptions of this daily routine occur, whenever symptoms of acute disease indicate that rest in bed is needed.

An outdoor school in connection with a sanatorium is necessary to maintain discipline and prevent the children who are away from all home restrictions from running wild. They would otherwise lose all sense of courtesy and respect for their elders and associates. For this reason alone it would be worth while, but in addition much school work can be accomplished.

When their disease becomes arrested and there is no open tuberculosis, they ought, after discharge from the sanatorium, to continue their school life in open-air rooms.

Von Pirquet and other careful investigators have proven that nearly all children under fourteen years of age react to the tuberculin test, show-

ing thereby that they have in some way become infected with tuberculosis.

Tuberculous infection in childhood seems to be an automatic process on account of the almost universal distribution of the tubercle bacillus in the homes, schools and places of amusement which make up the environment of developing children.

Until a few years ago it was taught in most books of medicine that pulmonary tuberculosis was rare in children under ten or even fifteen years of age. Recent pathological investigation reveals the fact that involvement of the lungs is the most frequent of all forms of tuberculosis, in children as well as in adults. A tuberculin reaction in older children has a serious significance only when symptoms showing a localization of the disease can be discovered, or in the absence of such signs, if a child has a little rise of temperature in the afternoon, is undeveloped, or anemic. Such children should be sent to a sanatorium, where they will usually make rapid improvement, and their resistance raised to such a degree that serious disease is prevented.

It is interesting to review the evolution of the anti-tuberculosis movement. A marked advance was made in 1898 when Massachusetts opened a sanatorium at Rutland for the treatment of curable cases of tuberculosis. This was a step in the right direction, but nevertheless the problem of eradicating the disease was approached in the middle instead of at either end. No attempt was made to isolate or segregate the many terminal cases of consumption who remained in their homes and continued to disseminate their disease among the most susceptible individuals, namely, the children. Thus infection occurred much faster than sanatoria could be built to cure them.

It was necessary at that time to begin sanatorium work in this way in order to prove not only that pulmonary tuberculosis was curable, but that it was curable in Massachusetts. The next important step was soon agitated, and provision made for the more advanced cases by the completion in 1910 of three state hospitals.

Now the steady growth of sentiment for better housing provision, medical inspection of the pupils and open-air schools makes the third, and, to my mind, the most important advance toward striking tuberculosis from its present place at the head of the list of preventable diseases.

It has already been shown that open-air and open-window schools have been successful in restoring debilitated children to health. It is proposed in many places to have one such room in all modern schoolhouses and to place therein selected children whose physical condition is impaired. Why not go a step further and do away with the expensive methods of ventilation now in vogue? These systems supply a vitiated atmosphere, superheated and excessively dry or artificially humidified, which for efficient service demands tightly-sealed rooms; in other words, a synthetic preparation containing oxygen is substituted for fresh air as it is freely supplied by nature. Instead of one healthful room in each building to care for such children as are made ill in the other rooms,

which are so arranged that they harbor disease and spread infection, why not have all the school-rooms of all the buildings built so that air as it comes from nature's laboratory may have free egress and exit?

The present idea of one open-air room in a building bears the same relation to sanatorium work at the present day as did the attempt in 1898 to cure a few patients who had tuberculosis in an early stage, without making any attempt to isolate the advanced cases, which were allowed to spread infection promiscuously among their friends and associates.

We should give the children who are well a chance to keep well, and in the same way, and at the same time, raise the resistance of those who are infected, but not necessarily diseased.

My idea of a modern school building in which these conditions will be met is one in which every room is open on at least two sides. In large city schools this could be arranged by a building in the form of a hollow square with a large courtyard or playground in the center. The upper sash of each window should have muslin instead of glass, so that winds and stones could be excluded, but the passage of air would not be much impeded. Heat could be procured by sufficient radiation under the windows to keep the temperature of the room about 60°. The humidity would approximate that of the outside air.

Under such conditions the teacher and children could keep comfortable without being burdened with heavy clothing. Although fresh air in its natural unchanged condition is what children thrive on, it does not follow that schools need be conducted out of doors in winter. Cool air is refreshing, cold air is stimulating, but extreme cold is debilitating and dulls the children's mental perceptions. I believe that the degree of cold should be graduated or modified as can be readily done in open-window schools by the method previously referred to.

I hope eventually a hospital school building will be erected at Westfield. The children could be more satisfactorily cared for, better discipline could be maintained if they were kept entirely separate from the adult patients with whom association is not conducive to either mental or moral improvement. That there is need of such a school building is shown by the fact that there are now in the four sanatoria sixty-nine children from five to sixteen years of age. Applications for the admission of children are rapidly increasing in number, as only recently has their admission been encouraged.

A teacher's task in such a school is many sided, and it will take a woman of more than the usual attainments to be successful as a teacher of books, a player of games and an instructor in the mysteries of nature.

## MAINTENANCE OF ISOLATION HOSPITALS.\*

BY WM. C. HANSON, M.D., BOSTON.

### THE WORK OF THE STATE INSPECTORS OF HEALTH.

THE State Inspectors of Health are physicians legally recognized as sanitarians, each one in charge of a health district.

Although the Commonwealth is divided into fourteen health districts, the district lines are of minor importance in the accomplishment of desired results. One health district may offer opportunities for investigation which are nearly or entirely absent in another district. Then, too, by allowing a State Inspector of Health to cross district lines, he may become exceptionally proficient in one or more branches of public health work. Such a plan does not affect the carrying out of certain executive functions by the State Inspector of Health in charge of his own health district. It does, however, bring out the very best qualities there are in the men, for it makes it clear to a man who is to merit success that his standard of work must be maintained on the principle that the work itself, not the individual official, will always have first consideration. It therefore is expected that in addition to the performance of certain official duties, a State Inspector of Health will become exceptionally proficient in some one or more branches of public health work. Thus, the supervision of the State Inspectors of Health by the State Board of Health is based upon broad general principles, the work itself always having first consideration.

One function of the State Inspectors of Health is to gather information concerning the prevalence of tuberculosis and to disseminate knowledge as to the best methods of preventing the spread of this disease; but the State Inspectors of Health have other work to do. Not only are they obliged to gather information concerning the prevalence of tuberculosis, but concerning all influences and diseases that are or may be dangerous to the public health. All such investigating work relating to the prevention of the spread of disease constitutes the most important of all the duties of the State Inspectors of Health.

Dr. MacKnight<sup>1</sup> will show you the results of one particular investigation relating to tuberculosis. His results, which necessitated a great deal of traveling, represent much detailed work over a considerable period of time. Such work is expensive, but you will have the opportunity to judge whether it is worth while. Such work is limited, as I shall fully explain, by a limited expense appropriation, so that you may have the opportunity to judge whether you care to have it continued.

The important thing in the legislation respecting the work of the State Inspectors of Health is, in general terms, it seems to me, that it is advisory legislation. The more general functions of the State Inspectors of Health are advisory functions.

\* Read at the Fourth Massachusetts Conference on Tuberculosis, Twentieth Century Club, 3 Joy St., Boston, Friday, March 22, 1912, 2.30 P.M.

<sup>1</sup> Dr. MacKnight, State Inspector of Health, spoke upon "What Happens to Patients Released from State Sanatoria."



The work carried on during a given year by the State Inspectors of Health relative to tuberculosis varies according to the special problems presented in the different health districts. The amount of work accomplished is limited by the amount of time and energy that the State Inspectors of Health can give to the subject. Their time and energy for this work, however, is limited chiefly in two ways: First, by a very limited appropriation for salaries and expenses; second, by the numerous powers and duties other than those relating to tuberculosis conferred and imposed upon them by the Legislature.

The question as to the relative importance of the different kinds of work of the State Inspectors of Health is settled by the Legislature. An act requiring the inspection of station-houses, for example, carries with it an annual appropriation of \$800; one requiring the investigation of tuberculosis, an appropriation of \$6,000. Then, there is the original health district act with its limited salary appropriation, which means that either of two courses of action must be taken; viz., either the appointment of efficient men who can give perhaps the greatest part, but not all, of their time to the state work, or the appointment of men of mediocre ability, who would plod along, but accomplish little, through the full number of work-day hours.

Fortunately, owing to the wisdom and foresight of one of our ex-governors, we have to-day as State Inspectors of Health a body of men whose professional standing and record in the community are good. Judging from practical experience, it may fairly be said that the majority of the State Inspectors of Health are making a big private sacrifice, temporarily, owing to their interest in the state work, and their realization of the good that can be accomplished in the field of preventive medicine. Naturally, too, they hope that in the near future their efforts will be appreciated by the public to such a degree as to be adequately compensated for financially, so that their entire attention can be given to hygiene and state medicine.

In order that you may have a clear idea as to the varied work of the State Inspectors of Health, I will merely enumerate the principal subjects and then go on with the special topic on the program. Their work relating to diseases dangerous to the public health, as has been said, is the most important. This work brings the men in close practical co-operation with the local authorities throughout the Commonwealth.

Another important subject is the investigation of water supplies and sewerage systems, again a work which brings the men in close touch with the local health authorities. In this work the State Inspectors of Health aid the water and sewerage department of the State Board of Health.

Another important branch of public health work is that of health inspection in factories. In the study of the health of persons employed in factories is included the physical examination of many young persons, and, so far as possible, the detection of occupational diseases or disorders and of tuberculosis and other communicable dis-

eases among both minors and adults. This branch of work also includes the enforcement of certain laws relating to the sanitation of the factory buildings.

Another equally important branch of public health work is the inspection of tenement houses where clothing is made. The primary object of such inspection in tenement houses is to guard the public health against the spread of tuberculosis and other infectious diseases by means of infected wearing apparel. The work accomplished has resulted in the maintenance of higher sanitary standards in the congested tenement homes. The friendly visits to the homes and the close personal contact with the workers have been a great educational force in the development of higher standards of hygienic living.

Other branches of the work of the State Inspectors of Health are the inspection of school buildings; of mercantile establishments; of police station-houses, lock-ups, houses of detention, jails, houses of correction, prisons and reformatories; and the inspection of slaughter-houses.

#### REPORT ON THE MAINTENANCE OF ISOLATION HOSPITALS BY CITIES AND TOWNS OF MASSACHUSETTS.

It seems best to introduce this subject in such a way that one will be in a position to understand all phases of it, rather than enter into a discussion blindly. First, I may say that my report on the subject is only a portion of a report that will appear in print in the *Monthly Bulletin* of the State Board of Health. The full report will be ready for the public within the next two weeks. Any person may have a copy of this report by making application to the office of the State Board of Health, either through the mail or in person. The report, it must be understood, was made following the enactment of a law last June relating to the establishment of isolation hospitals. Any reference, therefore, that I may make to isolation hospitals relates to this particular law enacted last June. This law remained on the statute books about eight months. It is now changed and another law, very different in scope, was enacted on the 24th of last month. My report, therefore, on the subject which I am about to present was made before the enactment of the new law. In other words, it should be borne in mind that objections by local officials referred to in the report might not hold under the new law. Under this new law, renewed efforts will have to be made before we can say anything as to results.

Now, to go back a minute to an old law<sup>2</sup> still in force, a law which provides that a local board of health (that is, a board of health of a town or city) may, if they see fit, cause any person sick with a communicable disease to be removed to a hospital or place which can be subjected to the regulations of the board, or if such removal cannot be done without danger to the patient's health, the board may consider the house or place in which the patient remains a hospital and act accordingly.

<sup>2</sup> Revised Laws, Chapter 75, § 42 (§ 36).

This law, however, is distinct from the one in question.

Let us now, at the start, be sure that we understand the meaning of isolation hospital according to the generally accepted definition. In the first place, by "hospital" is meant an establishment or institution for the care of persons who require medical or surgical treatment. By "isolation hospital" is meant one of a class of hospitals set apart for the reception and treatment of persons ill with certain communicable diseases declared by law to be dangerous to the public health. In Massachusetts, an isolation hospital is defined by law to include the reception of persons ill with smallpox, scarlet fever, diphtheria and tuberculosis. This does not mean, however, that all these different diseases shall be cared for in one establishment. A special hospital may be erected for the reception and treatment of cases of smallpox; it consequently becomes known as a smallpox hospital. Similarly, in the case of tuberculosis, if the establishment or institution is used exclusively for the reception and treatment of persons ill with tuberculosis, it is known as a tuberculosis hospital or sanatorium.

The practical side of the subject is this: there must be in the towns and cities of Massachusetts some arrangement to provide locally for the reception and treatment of persons ill with certain diseases dangerous to the public health in order to diminish the spread of such diseases. Among persons who are in comfortable circumstances, living in comfortable homes, it may be possible to isolate the patients properly at their homes and keep them under strict isolation until the danger of other persons contracting the disease by direct or indirect contact is practically eliminated.

Inasmuch, however, as almost every community has some poor people living under conditions which make proper isolation in the home impracticable, if not impossible, and as many persons are ignorant of the ways in which infectious diseases spread, and consequently fail to appreciate the need of strict isolation and quarantine, it is essential that hospitals or places be provided or that some suitable provision be made within reasonable access to every community for the isolation of those persons who cannot be properly cared for in their homes.

The subject now before us is how the State Inspectors of Health are aiding the State Board of Health in the enforcement of the laws relating to the maintenance of isolation hospitals by the cities and towns in the Commonwealth. This particular report, however, as I have said, relates specifically to the law enacted last June, now changed in scope.

Following the enactment of the 1911 law, an early inquiry throughout the Commonwealth by the State Inspectors of Health brought two main results: (1) that but few cities met the technical requirements of the law, and (2) that many practical difficulties confronted the local communities in their attempt to comply with the law as it was phrased.

Shortly after the passage of the act, plans for hospital construction were presented at the office of the State Board of Health for consideration in five instances, two of which were acted upon and approved by the State Board of Health.

The next step was to reach all the towns in the Commonwealth for the purpose of interviewing their governing bodies and representative citizens as regards the enforcement of the law. At various conferences called by State Inspectors of Health in many districts the attendance was good. The first conference was in the Cape district. The plan suggested itself to Dr. MacKnight, State Inspector of Health of that district. Through the courtesy of the Hon. Eben C. Keith, a member of the Governor's Council, all of the Cape boards were represented at this conference. Copies of the law were presented to all present and a general discussion followed. The first criticism was the drastic and mandatory nature of the act. There was difference of opinion as to whether the isolation hospital and tuberculosis hospital should be in combination or separate, whether the tuberculosis hospital should be one wing and the isolation hospital another wing, what sort of central arrangement might be made for the accommodation of a nurse or physician, and other such questions. Information was desired as to the general purpose of the law, especially in towns where there had been but few cases of contagious disease within several years, — for instance, Cuttyhunk, Gosnold, Truro. Truro, for example, had one case of tuberculosis at the present time which was costing the town \$15 per week, — one tenth of the annual tax income. The town of Mashpee was supporting two cases of tuberculosis at the Sassaguin Sanatorium in New Bedford, which was privately conducted, at an expense of \$15 to \$18 per week. The town of Brewster was recorded as being unable to support a hospital and being unwilling to enter into an agreement with other towns to "establish and constantly maintain" in common such a hospital. It was the consensus of opinion that not enough consideration was given the matter previous to the enactment of the law as to the actual needs in the small towns for provisions to care for persons ill with contagious diseases. It was asserted that the enforcement of the law as it was enacted must of necessity entail hardship, since the tax-rates were quite high and the population not sufficiently large to meet the situation without the impoverishment of the towns. Considerable discussion developed as to whether, if the hospitals were established, they were to be maintained daily or whether they could be equipped and closed when not required, and opened as occasion arose.

A similar conference was held at Wood's Hole on Dec. 5. An interesting fact in connection with this meeting was that two members of the board of health of a remote town made a trip of eighteen miles each way in a motor boat to attend the meeting. In spite of this interest, however, the men felt that they would be unable to persuade the taxpayers at the town meeting to vote an appro-

priation for a hospital which all agreed was unnecessary.

At another conference later on, among the objections made to the act were the following: The unreasonable nature of the act by the hardship forced upon the town; its unnecessary mandatory features; its impracticability; the result of impoverishment of the town; inability to comply with the request of the State Board of Health if one was made; impossibility of collecting fines.

The State Board of Health are now in possession of the facts as to existing local hospital provisions in every city of the Commonwealth and in all the larger towns and in nearly all of the smaller towns with a population of two thousand inhabitants or over, and in many of the smallest towns. This report, as I have said, is to be made public in the *Monthly Bulletin* of the Board to be issued within the next two weeks. In the report is discussed the need of isolation hospitals, as is also the question of making arrangements between cities or between cities and towns for the care of persons ill with communicable diseases. The need of hospital provisions for towns is discussed, as are also the difficulties of establishing and maintaining such hospitals by the towns.

In closing, I have one suggestion to make. The public should recognize that the provision of isolation hospitals and the maintenance of such hospitals by towns and cities is but one step towards the solution of the difficulties arising in the attempt to control the spread of infectious and contagious diseases.

What is most essential is the careful investigation by the local board of health of each person stricken with a communicable disease. The investigation should be made immediately on the report of the disease by the attending physician, a member of the household or the person having charge of the patient.

There should be a reasonably careful supervision of isolation and quarantine during the entire course of the disease in order to prevent the spread of infection.

In cases where proper isolation cannot be obtained at home, the local board of health should cause the infected person to be removed to a hospital or place where proper isolation can be obtained, provided the removal can be made without danger to the patient's health. Otherwise, the house or place in which the patient remains should be considered as a hospital and all persons residing in or in any way connected therewith should be subject to the regulations of the said local board of health.

It is quite possible that if such action were taken local authorities would begin to see the need, more than they do now, of isolation hospitals for the reception of the sick who cannot be properly isolated in their homes.

## WHAT HAPPENS TO PATIENTS RELEASED FROM STATE SANATORIA?\*

BY ADAM S. MAC KNIGHT, M.D., FALL RIVER,  
*State Inspector of Health.*

THE information I have to present has been obtained by painstaking investigations. The cases represent a small group of patients known to have had treatment in some state sanatorium. They however were not selected. The facts were dispassionately collected and are therefore of the highest value.

*Patient No. 1:* Discharged from Lakeville Dec. 20, 1910, against advice. Was out and around for a short time and was said to have been careless in personal habits. Resided in a tenement dwelling. Now dead.

*Patient No. 2:* Discharged from Lakeville Dec. 28, 1910. This patient, a man, could not be found at the address given on his discharge notice from Lakeville. Neither inquiry at the office of the local board of health of the city in which he formerly resided nor inquiry at the headquarters of the local anti-tuberculosis society brought light concerning his whereabouts. Apparently the patient got out of the way in order to avoid being found by the health authorities.

*Patient No. 3:* Discharged from Lakeville Jan. 12, 1911, against advice. Went directly home and to bed, where he stayed until he died, January, 1912. In this instance the sanitary conditions in the home were very good and proper care was taken to prevent the spread of infection.

*Patient No. 4:* Discharged from Lakeville Jan. 19, 1911, for breach of discipline. The residential address given on the discharge paper was that of a tenement block, where it was found on investigation that the patient had lived previous to his stay in the sanatorium. No knowledge of this patient's whereabouts could be found either by the local health authority or by myself.

*Patient No. 5:* This patient, a man, absconded from Lakeville on Feb. 20, 1911. He first returned to a tenement block where he lived before entering the sanatorium. Then he went to a tenement in another part of the city, again to a tenement in another locality, and still later to another tenement in the same city, where he was found to be living. This tenement was in a two-story block where the patient lives with his wife and four children. He was found to be working as a weaver in a local cotton mill and he was there sought out, questioned and examined. His present history consists of a decided loss in weight, nightly chills and sweats. He is short of breath, weak and nervous. When last seen he was attending ten looms and was kept busy practically every minute of the day. A physical examination revealed the unmistakable fact that he was in an advanced stage of tuberculosis. When last seen only a short time ago his home conditions were found to be poor. His wife, on physical examination, was shown to be in a moderately advanced stage of tuberculosis. Both man and wife slept in a stuffy room with the windows closed at night. Evidently, the man had not benefited by his stay at the sanatorium. He and his wife were noticed to be careless in their habits and to expectorate promiscuously. A visiting nurse for a local anti-tuberculosis association stated that two of the four children in the family were tubercular.

*Patient No. 6:* This patient, a girl, was discharged from Lakeville on March 31, 1911, as an arrested case. She returned to the address given on her discharge card, — a clean, orderly apartment in a tene-

\* Read before the Fourth Massachusetts Conference on Tuberculosis, Boston, March 22, 1912.

ment block and eventually took up her studies in school. While the girl was discharged as an arrested case and her parents now believe her to be in excellent health, a physical examination showed that she was in a moderately advanced stage of tuberculosis. She had lost 4 lb. since leaving the sanatorium. She expectorated occasionally and took no special sanitary precautions to prevent the spread of infection.

*Patient No. 7:* This patient, a girl, was discharged from Lakeville May 1, 1911, for breach of discipline. The only information that could be obtained relative to this patient was that she returned to her home, a tenement with distinctly bad sanitary conditions; shortly afterwards was married and went away to parts unknown.

*Patient No. 8:* This patient, a woman, was discharged from Rutland Nov. 25, 1911, as an arrested case. She was found to live in a clean, neat little cottage house. She has been out and about much of the time and has just returned from a visit out of the state. Physical examination, together with a history of repeated attacks of coughing and expectoration, showed that there was an active process of the disease in the upper part of one lung. She was having a continued afternoon temperature.

*Patient No. 9:* This patient, a boy, was discharged from Lakeville on June 9, 1911, for breach of discipline. He returned to his home amidst distinctly bad sanitary conditions. His father had been an alcoholic for fifteen years. The boy was careless and dissolute. Finally, last month, he was committed to an industrial school as an incorrigible.

*Patient No. 10:* This patient, a girl, was discharged from Lakeville July 19, 1911. The condition of the patient on discharge from the sanatorium was not given. She returned to her home, a neat tenement apartment, then went to a local tuberculosis hospital, where she died three weeks after admission.

*Patient No. 11:* This patient, a man, was discharged from Lakeville Nov. 21, 1911. His condition on discharge was not given. The local board of health was found to have no knowledge relative to the patient. Moreover, the case had never been reported to the board. All trace of this individual is lost.

*Patient No. 12:* This patient, a woman, was discharged from Lakeville July 19, 1911. Her condition on discharge was not given. She returned to her original address, stayed there for a time and then went to live with her sister. Later, she returned to Lakeville, where she is at the present time. When at home she was said to have been careless in her habits and to take no sanitary precautions to prevent the spread of infection.

*Patient No. 13:* This patient, a man, was discharged from Lakeville Aug. 9, 1911, with no statement as to his condition at that time. He returned to his residence before entering the sanatorium, took his bed and died on the first day of the following month, — Sept. 1, 1911. After his return from the sanatorium, no advice or assistance was given him by the local health authority.

*Patient No. 14:* This patient, a man, was discharged from Lakeville Aug. 2, 1911, with no statement as to his condition. He did not return to his former home, but went to a town in another state, where he died during the winter.

*Patient No. 15:* This patient, a woman, was discharged from Lakeville on Aug. 20, 1911, with no statement as to her condition at that time. She stated, however, that she was called an "arrested case." She was found to live in a small, clean cottage, amidst good sanitary conditions. She, however, sleeps in a stuffy room with the windows tightly closed

during the night. With a history of poor appetite, occasional night sweats, marked weakness, she was found on physical examination to have a moderately high temperature with rapid pulse, together with such physical signs as to make it clear that she is in a moderately advanced stage of the disease with an active process going on in one lung.

*Patient No. 16:* This patient, a woman, was discharged from Lakeville Aug. 16, 1911, with no statement as to her condition at that time. She returned to her former residence, worked out at house cleaning for two or three months, then went to the Rutland Sanatorium. While at home she received no advice or assistance from the local health authority. She lived in a crowded apartment in a three-tenement block.

*Patient No. 17:* This patient, a woman, was discharged from Lakeville, Aug. 30, 1911, with no statement as to her condition at that time. No knowledge concerning this patient could be obtained from the local health authority and no trace of the patient could be found.

*Patient No. 18:* This patient, a man, was discharged from Lakeville Sept. 11, 1911, for a breach of discipline. No statement was given as to his condition at the time of discharge. The man's whereabouts are unknown.

*Patient No. 19:* This patient, a woman, was discharged from Lakeville Sept. 29, 1911, against advice, with no statement as to her condition at that time. The report of the patient's illness had never been made to the local health authority, and no trace of the patient can be found.

*Patient No. 20:* This patient, a man, was discharged from Lakeville Sept. 3, 1911, against advice. The local board of health had no knowledge as to his whereabouts and no trace of the patient can be found.

*Patient No. 21:* This patient, a man, was discharged from Lakeville Sept. 29, 1911, against advice. He returned home in bad condition, living but a month. He was out and about for a short time only. It was said that he took little or no care of himself and was careless in his habits as regards the avoidance of spreading infection.

*Patient No. 22:* This patient, a woman, was discharged from Rutland, April 11, 1911. Has not improved. She was given some care and attention by the local board of health, but she died on the 19th of the September following. The tenement in which she lived was occupied by eight other persons.

*Patient No. 23:* This patient, a man, was discharged from Rutland, Sept. 26, 1911, as an arrested case. On returning home he went to a local tuberculosis hospital, where he stayed a week. He then stayed at home and was out and about on the street and elsewhere. He was said to have been careless in his habits as regarding avoidance of spreading infection. He lived in a three-story tenement amidst distinctly bad sanitary conditions, where he died the following December.

*Patient No. 24:* This patient, a man, was admitted to Rutland, in June, 1911, and discharged from that sanatorium on Sept. 11, 1911, as an arrested case. While at Rutland his sputum was always found to be negative. Physical examinations showed no signs of tuberculosis. The man works every day at hard labor. He has just been insured by one of the best known insurance companies for three thousand dollars. It is believed that the man never had tuberculosis.

*Patient No. 25:* This patient, a man, was discharged from Rutland; date not given. The local board of health had no knowledge of this man. According to some reports he was dead. The man was found to be living in a porch shack and to have considerable cough night and morning. On physical examination he

showed evidence of an active process of tuberculosis in one lung. His home conditions are sanitary.

*Patient No. 26:* This patient, a man, was discharged from Rutland, Oct. 27, 1911, as an arrested case. He returned to his original residence, — a five-tenement block. He slept alone in a small room which had but one window, and this not exposed to the sun at any time during the day. Since his discharge he has worked off and on as a spare weaver (sometimes known as "sick" weaver). Recently he discontinued this work to sell candy on the street for a candy manufacturer. Physical examinations showed the patient's condition to be temporarily improved.

*Patient No. 27:* This patient, discovered during an investigation of the preceding 26 patients, left Rutland, June, 1908. Since discharge he has lived in two cities and one town, changing residence six times in four years. He has worked in two mills and as an insurance agent. He has lived in four tenements and two boarding houses and has taken meals in twenty-four restaurants. He travels daily in the electric and goes to theaters weekly. Physical examinations show this man to be in an advanced stage of tuberculosis and a constant menace to persons with whom he comes in contact.

A classification of the 27 patients investigated falls naturally into three groups.

Group A, those patients who were known to be alive on Feb. 1, this year, viz., 9 in number.

Group B, those patients known to have died previous to Feb. 1, 10 in number, or 37% of the total number investigated.

Group C, those patients, 8 in number, who were lost sight of at the time of their discharge from the sanatorium. Concerning these patients there is no definite information available.

Of the 9 patients known to be alive on Feb. 1, this year, 2 had returned to the sanatorium and 1 had been committed as an incorrigible to a correctional institution. Physical examination of the remaining 6 patients showed 2 patients with the disease far advanced, 1 well advanced and 2 moderately advanced. The remaining patient appeared to be temporarily improved. Each of the 6 patients examined had, at some time within the past two years, been resident in a state sanatorium and should have profited by the instruction received there. These persons, on returning home, should have taken reasonable precautions to protect their own health and the health of those with whom they came in contact. The exact conditions under which these persons were found to be living and the precautions they were taking to protect others from infection may be summed up as follows:

1. Patient living in a tenement surrounded by distinctly bad sanitary conditions and working in a cotton mill; spitting promiscuously; and taking little or no care of himself or thought of others; wife ill with tuberculosis and it was alleged two children ill with the same disease.

2. A patient discharged as arrested found living under good sanitary conditions but careless as to expectoration.

3. A patient discharged as arrested now in a moderately advanced stage of the disease. Was found living under good sanitary conditions but

careless as to expectoration. Has traveled considerably since his discharge.

4. Patient was found living in a neat cottage home, but was afraid of fresh air; slept in a close, stuffy room with windows tightly closed. Went out occasionally and was careless about expectorating.

5. Patient discharged as arrested. Has been working as a spare weaver in a cotton mill. Slept alone in a room with windows open, but has been taking no care as regards expectorating.

6. A migratory patient in a well-advanced stage of tuberculosis who was a constant menace to other persons.

The following facts were disclosed as regards the patients who left the sanatoria and since died:

1. Careless in habits; lived in tenement house under bad sanitary conditions.

2. Did not return to city in which he lived before going to the sanatorium.

3. Careless in personal habits and a menace to others until he died.

4. Lived in a tenement home; was out and about, spitting promiscuously and careless in personal habits.

5. Living under bad sanitary conditions.

6. Actively sick with tuberculosis and a constant danger to other persons.

The remaining 4 patients in this group received proper care, living amidst good sanitary surroundings.

Of the patients concerning whom no definite information is available at the present time, 1 ran away from the sanatorium; 3 were discharged for breach of discipline; and 2 were never reported to the local board of health. Of the remaining 2 patients, no information of any kind has been available since they left the sanatorium.

Briefly stated, the investigation disclosed the fact that 9 of the 27 patients discharged from a state sanatorium were known to be living, while 10 had died since leaving the institution and 8 were at large without any knowledge of the fact by a local health authority. Of the 9 persons known to be living, 3 are now inmates of a state sanatorium, while each of the remaining 6 is careless as regards the spread of infection. A striking fact which the investigation disclosed is that each patient returned from the state sanatorium as "an arrested case" was found on physical examination either in an advanced or moderately advanced stage of the disease.

The investigation further disclosed the fact that persons are discharged from state sanatoria to go whither they may. They sometimes return to their original place of residence, or they may seek new domiciles in the same city. They may never return to their original location, but may go to other cities or even other states. In any event it appears that no person or organization is responsible or assumes responsibility for the care and conduct of patients discharged from a state sanatorium.

It is a fact that most of the 27 patients investigated on leaving the sanatoria have been found to be careless in their personal habits, especially

as regards the prevention of the spread of the disease among well persons. They have thus failed to profit by the instruction received at the state hospitals.

Another fact made clear by the investigation and well illustrated by the experience of one patient is that some of the physicians who recommend sanatorium treatment are not sufficiently expert in making a proper diagnosis.

Another fact made clear by the investigation is that a considerable proportion of the patients discharged from a state sanatorium as an "arrested case" relapse immediately or shortly afterwards into a condition of well-advanced sickness. On returning home the patients are generally left to their own resources.

To correct this condition of affairs, it would seem that there should be in certain prescribed localities within the state designated officials who should at all events have exact knowledge of the prevalence of tuberculosis within these localities, men who should have knowledge of the physical and social condition of each person entering a state sanatorium, together with a knowledge of their condition during their stay in hospitals and at the time of discharge. These officials should also have general oversight of the sanitary and other conditions affecting all persons ill with tuberculosis within their respective localities.

At the present time the duties of the State Inspectors of Health relating to tuberculosis may be stated briefly as follows:

- (1) To gather all information possible concerning its prevalence.
- (2) To disseminate knowledge as to the best methods of preventing its spread.
- (3) To report to the State Board of Health any minor employed in a factory who is found to have the disease.
- (4) To report to the State Board of Health and to the proper local health authority every case discovered in a tenement workshop.
- (5) To notify local boards of health of any person found to be endangering the public health.
- (6) To do what they can toward seeing that the notification laws which require householders and physicians to report any known case to local health authorities are enforced.

The State Inspectors of Health from their knowledge respecting the sanitary condition of their districts and concerning all influences that are or may be dangerous to the public health and from their knowledge and experience in factory conditions are in a position to accomplish still more good by being legally required to keep a record of the dwelling place, occupation and physical condition of all persons in their respective districts who have been inmates of the state sanatoria, and from time to time forward to each state sanatorium a report of the condition of the persons who have been treated therein.

## THE RELATION BETWEEN STATE AND LOCAL HEALTH AUTHORITIES.\*

BY FRANCIS GEORGE CURTIS, M.D.,  
Chairman Newton Board of Health.

In the paper which I have the honor of presenting to you to-day I have attempted to show those aspects of my subject which present themselves to a local health officer from time to time in the course of his daily work. Many of the matters referred to have occurred in my own experience, and the subject is treated from a slightly personal viewpoint.

I believe, however, that many of the problems and criticisms, for I shall have some criticisms to make, are such as have occurred to many if not all of the local authorities who are engaged in similar work, and are, therefore, worthy of consideration and discussion here.

In dealing with tuberculosis, the local health authorities are brought into fairly close contact with two sets of state officials; these are the Trustees of the Hospitals for Consumptives, and the State Inspectors of Health.

It is well to consider how this contact is brought about; of what it consists; what seem to be its weak points and how they can be remedied.

As the contact with the Trustees of the Hospitals for Consumptives comes first it seems best to take that up first and follow with the consideration of the contact with the State Inspectors of Health.

When the report of a case of tuberculosis is sent to the local board of health by the attending physician, a report required by law in all such cases, the first question to be decided is whether the patient shall go to an institution for the care of persons suffering from tuberculosis, and, if the decision is in the affirmative, whether to a private hospital or to one of the state sanatoria.

As few municipalities have hospitals, either public or private, for the care of tuberculosis, and as, even when such hospitals exist, the expense is greater than at a state sanatorium, the decision of the local authorities is usually in favor of a state sanatorium, provided a vacancy exists.

Unless the case is far advanced or the conditions surrounding it are very bad, I fear that most local boards are willing to wait a month or so until a vacancy does occur.

The first step in getting the patient to a sanatorium consists in making out the necessary application and forwarding it to the Trustees of the Hospitals for Consumptives. Having done this, the local board, in the majority of instances, seems to consider that it has done all that is necessary in the matter and, with the exception of occasionally wondering when the Trustees are going to report on that case, dismisses the matter from consideration and turns its attention to other matters.

Of course the Trustees have no knowledge of local conditions nor of the urgency of the case, and the application is considered in regular course and a report made. The patient finally reaches

\* Read before the Fourth Massachusetts Conference on Tuberculosis, Boston, March 22, 1912.



the sanatorium and the responsibility of the local board of health ceases. When, however, the patient is discharged from the sanatorium, the local board again assumes its responsibility, provided it knows where to locate the patient. It frequently happens that the patient does not return to the place from which he was admitted, and his whereabouts are unknown.

In dealing with any case of tuberculosis the local board of health is actuated by two motives, which necessarily oppose each other somewhat. These motives are, first, how to do the best that can be done for the patient himself, and, second, how to do it as cheaply as possible, so that the annual appropriation order may not be exceeded.

This latter desire is a very real factor in the action of many boards of health and may explain why some of them appear to oppose the removal of patients with tuberculosis to a hospital or other institution. It is probably a fact that a health board would be considered justified in over-running the annual appropriation in the face of a sudden outbreak of smallpox, and the city fathers who control the purse strings would acknowledge that the board had acted wisely in so doing and grant the necessary funds to meet the extra expense, but let the same board incur extra expense for the care of tuberculosis, a disease much more dangerous than smallpox, and it would undoubtedly find itself plunged into a sea of troubles.

This brings up a point in regard to which the Trustees and the local health authorities are somewhat at variance, namely, the acceptance by the Trustees of applications for admission to the state sanatoria of which the local health authorities know nothing until they receive notice of the admission of the case, to be followed in due time by a demand for payment of the bill for its care.

These applications are made out by private physicians and forwarded either by the physicians themselves or by some local charitable society and are then acted upon by the Trustees, without any notice to the local board that they have been received.

This method of procedure on the part of the Trustees is the cause of much criticism by the local health authorities and is also a cause of friction between departments which should work together in harmony, as they have the same objects in view, namely, the welfare of the patient and the protection of the public.

The local boards of health realize that the Trustees wish to extend the benefits of skilled treatment to the sick with as little red tape as possible, but they believe that they are more fully acquainted with local conditions than are the Trustees, and are better fitted to judge whether the particular case under consideration should have the benefit of hospital treatment, rather than some other case in the same municipality.

They also believe that there is no principle of law or equity which justifies a citizen or combination of citizens, as, for instance a private physician, or the local anti-tuberculosis association, taking action which fixes liability upon the mu-

nicipality in which they reside, without that municipality having any voice in the matter. Besides this, such action makes it utterly impossible for the local board to have any idea what liability it may have to meet at any given time.

There seems to be a further question of a violation of the provisions of the statute governing diseases dangerous to the public health.

No one would think of moving a case of smallpox or diphtheria from one municipality to another without permission of the local boards of health, not only of the places from which and to which the patient was to be moved, but also of those boards through whose jurisdiction it must pass.

Under the statute law of Massachusetts tuberculosis has been declared a disease dangerous to the public health; the inference seems obvious.

In my own city during the past year 12 cases of tuberculosis have been admitted to state sanatoria without the local board of health knowing that the applications had been filed.

It is not claimed that these 12 cases did not need sanatorium treatment, nor that the local board was called upon to meet the expense in all cases, but it is claimed that sanatorium treatment was not needed in some of them, as shown by the fact that the patients did not remain in the sanatoria more than a few weeks after admission and that the local board of health knew this and could have so informed the Trustees, thus saving much unnecessary work.

Again, many of these cases go in as private cases; that is, they agree to pay their own expenses, or some local association or charity agrees to be responsible for the charges.

After the patient has been admitted he learns that others from his own place are there at the expense of the municipality and naturally he thinks that he should be relieved from the expense and declines to pay, saying he is unable to do so. Besides this, the local association after some months may come to the conclusion that such assistance as they are able to afford might better be applied to some other use, and so withdraw their guarantee. Then the local board of health is called upon to meet the expense.

The local board, either by its own efforts or by the assistance of the Charity Department, can very easily find out about the ability of a given case to meet his or her own expenses at a sanatorium.

It also naturally knows more about the surroundings of the case and the necessity of sanatorium treatment. This information it can and will readily furnish to the Trustees if only it receive notice of the application before the patient is admitted instead of after.

It does not seem to be too much for the local health authorities to ask the Trustees to notify them that an application has been filed for the admission of a case, and ask for information regarding it, before the patient is admitted to the sanatorium.

If a patient needs hospital care there is no doubt that the local authorities would much prefer to have him go to a state sanatorium rather than a

private institution, because they know that he will receive better care in the former and at a less expense, and, as has already been stated, the question of expense is a very real one to most local boards of health.

After the patient has been admitted to a sanatorium he passes from under the supervision of the local authorities until such time as he may be discharged.

On the discharge of a patient the Trustees, through the superintendents of the sanatoria, promptly notify the local authorities of the municipality from which the patient was admitted, of the fact, giving the last known address. In looking over these notices of discharge there is a notable absence of any record of the patient's condition at the time of discharge. For instance, in a dozen discharge notices received during 1911, three only make any reference to the patient's condition, unless, indeed, the patient has died, in which event the fact is noted.

In the three instances noted, the statements "arrested case," "apparently cured," appear. Of the other cases, one is discharged for "breach of discipline," two "at her own request against advice," while the others have no comment.

Among those discharged without comment, a reference to the dates show that three were discharged within three weeks of admission. The question naturally arises, Why was this done? Was there a misdiagnosis on the part of the physician who signed the application, or what?

This question of discharge opens a large subject, and it is one in regard to which all of us, state officials and local health authorities, seem to be very lax. We have not the courage of our convictions or else we have no convictions.

Under the laws of the Commonwealth, tuberculosis is declared to be a disease dangerous to the public health, and we, as physicians and health officers, know that it is, or at any rate, may be easily transmitted to others; we know that the death-rate from tuberculosis is high, far higher per 100,000 of the living than that of scarlet fever or diphtheria, and yet we allow persons in a presumably dangerous condition to leave the hospitals where they are under treatment practically at will.

We would not for a moment think of allowing a patient with scarlet fever or diphtheria to leave an isolation hospital until he was free from danger to others; why, then, should a patient with tuberculosis have such liberty?

It would seem to be the part of consistency to treat such patients as we do other transmissible diseases, and when they have once been sent to an isolation hospital hold them there until they are no longer dangerous to others.

Whether such action on the part of the state or local authorities would be possible to enforce at present is an open question, but it certainly seems to be the logical method.

Until it can be done, the local health authorities must confine their attention to continuing the work of the state authorities among the discharged patients, by instruction, by means of

nurses and circulars and such other means as seem best.

It is freely admitted that the local authorities are lax in following up cases that have been discharged and keeping in touch with them. Very few boards of health make a practice of doing this very necessary part of the work, and even when the cases are followed up, it is done in a more or less perfunctory manner. Time was lacking to obtain many facts in regard to this part of the work, but from the little information that could be obtained it is very evident that, except in some larger municipalities, it is practically neglected.

There is no doubt that these cases should not be neglected, but should be followed up and urged to continue, as far as possible, in the course of life which they have been taught at the sanatoria.

The problem of dealing with those cases which have been judged fit for sanatorium treatment and, after a longer or shorter time, have been discharged for "breach of discipline" or "at their own request against advice," is a more difficult one. They need treatment or they would not have been committed to a sanatorium; they have been discharged, not because the disease has been arrested, but for some other reason, and the Trustees are naturally reluctant to receive them a second time, and the local board can do little or nothing with them, as it can only advise them as to what they shall do, and they are usually more or less refractory and will not take advice. Then they are a constant danger to their own families and to the community.

This brings us face to face again with the inconsistency of our present methods of dealing with the tuberculosis problem, and I can only repeat what I have already said, that we must have the courage of our convictions and deal with such cases as we do with other communicable diseases, or else throw up our hands and confess that the solution is beyond our power.

Tuberculosis differs from certain other diseases dangerous to the public health in that it is not self-limited and that, in ordinary, untreated cases, the patient becomes more dangerous as time goes on. Further than this, as long as the patient is able to go about, he may insist upon so doing and we have not yet reached the point when we can take him by force and isolate him. Even if we could do this, it is in my opinion an open question whether it would not defeat its object by causing persons to conceal their condition until too late to do them any good by treatment.

The relation of the local health authorities with the State Inspectors of Health differs in great measure from that with the Trustees.

It is necessary for the local authorities to notify the State Inspectors of Health of each reported case of tuberculosis, and the latter visit the cases and report on them to the State Board of Health.

As far as actual power over the cases is concerned, that of the State Inspectors of Health is simply advisory, and while such advice is of great

value, it rests entirely with the local authorities whether it shall be adopted or neglected.

In the majority of instances, the local authorities are more than glad to have the advice and assistance of the State Inspectors of Health and the two work together in harmony, as is proper between men who have the same object in view.

In conclusion, while the three bodies referred to are in harmony with each other in the general treatment of the problem before them, it appears that there are certain matters of detail in which this harmony might be increased.

The weak points seem to be, first, the admission of patients to a sanatorium without previously notifying the local health authorities that an application has been filed, and requesting information in regard to the patient; second, the failure of the local authorities to follow up cases which have been discharged as "arrested cases" and help them to take care of themselves, and third, the lack of power for local boards of health to compel careless cases to take proper care of themselves or to remove them forcibly to a hospital.

#### WORK TREATMENT FOR CONSUMPTIVES.\*

BY ARTHUR T. CABOT, M.D.,

*Chairman of the Trustees of the Massachusetts Hospitals for Consumptives.*

DR. Cabot discussed the place of rest and exercise in the treatment of pulmonary tuberculosis. He described the mechanism by which the body is conquered by the disease and the relation of this process to exercise and rest. He also described the graded exercise as carried on by Dr. Marcus Patterson in England and in the Massachusetts State Sanatoria. In conclusion, Dr. Cabot stated that both exercise and rest are most valuable factors in the treatment of tuberculosis, and pointed out the great danger of advising patients to exercise unless it is under the most detailed, close supervision of the physician.

### Clinical Department.

#### FRACTURE OF THE GREATER TUBEROSITY OF THE HUMERUS BY MUSCULAR ACTION IN A CHILD.

BY WM. FRANK COORS, M.D., BOSTON.

FRACTURE of a part of the upper humeral epiphysis is very uncommon; when, added to this, we have the condition caused by muscular action alone, it becomes extremely rare. But few cases are recorded. Ossification begins in the upper epiphysis of the humerus by three centers, one for the head, one for the greater and one for the lesser tuberosity. Bone is deposited in the epiphysis as early as the first year. The separate bony centers begin to merge together, forming the solid epiphysis at about six years; the greater tuberosity is the last center that becomes solid. The epiphysis is completely bony at puberty. Union of the upper epiphysis with the shaft does not take place until about twenty years of age.

\* Abstract of address before the Fourth Massachusetts Conference on Tuberculosis, Boston, March 22, 1912.

Separation of any one of the centers of ossification of the humeral head by fracture of the cartilage uniting them is possible, but unheard-of, as pointed out by Poland.

#### REPORT OF CASE.

Abram C., twelve years of age, was seen at the Surgical Clinic of the Boston Dispensary, Dec. 20, 1911.

*History.*—Two days ago, when trying to lift a heavy wooden box, five feet high, it slipped. He had succeeded in lifting it some considerable distance, so that his shoulder was under it. To save his arm from being crushed, he threw his shoulder backward with great force. Immediately there was very great pain in the shoulder, with disability. He had no sleep for two nights on account of the pain; the arm and shoulder were helpless.

Examination showed a well developed and nourished boy. There was no history of previous injury to the shoulder. The shoulder was held in the "clavicle attitude," the hand of the opposite side supporting the forearm. There was not as much drooping, however, of the shoulder as is generally present in clavicle fracture. There was a well-marked rounded swelling about the acromion region and a little below. There was no ecchymosis and no crepitus. Active movements were impossible. Passive motion was exquisitely painful. The child came to the clinic alone, too late for a picture that day. No anesthetic was given. The shoulder and arm were immobilized and the patient was told to report next day for a radiograph. The next examination showed the swelling in the anterior shoulder region to be less tender, the head of the humerus rotating in the glenoid. There was a suggestion of inward pointing of the upper one fourth of the humeral shaft. The arm was put up with plaster of Paris shoulder cap, axillary pad, circular and cravat sling; dressing very comfortable. The x-ray that day showed a fracture of the greater tuberosity.

The rest of the epiphysis was not displaced.

Dec. 23 the swelling of the shoulder had almost disappeared. There was great tenderness to pressure over the region of the greater tuberosity. The apparatus is very comfortable. Uneventful recovery. The boy was examined on Feb. 29, 1912. All active motions of the shoulder free. No muscular spasm, no atrophy, no tenderness. He uses the arm perfectly. Excellent result. Unfortunately a picture could not be obtained at this visit.

### Book Reviews.

*Duodenal Ulcer.* By B. G. A. MOYNIHAN, M.S., F.R.C.S. Second edition, enlarged. Illustrated. Philadelphia and London: W. B. Saunders Company. 1912.

The first edition of Moynihan's monograph was extensively reviewed in the issue of the JOURNAL for June 9, 1910 (vol. clxii, p. 789). The changes in the text of this second edition "have been chiefly concerned with the differential diagnosis of duodenal ulcer and the result of x-ray examinations of the stomach after the administration of bismuth." The book concludes with two appendices, in which are reported, in two separate groups for comparison, the cases operated upon prior to Jan. 1, 1909, and the cases operated upon in 1909 and 1910. The

latter group includes 115 cases, with only one death, the first in a consecutive series of 192 cases. This work retains all the merits of the original enriched by the author's growing experience, and remains the authoritative standard on the surgery of duodenal ulcer.

*The Immediate Care of the Injured.* By ALBERT S. MORROW, A.B., M.D. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1912.

The first edition of this book was published in 1906. The present second edition has been thoroughly revised and corrected, some of the old material condensed or omitted, and considerable new substance added. The plan of the work remains unchanged. The first part deals with the anatomy and physiology of the human body; the second with bandages, dressings and practical remedies; the third with accidents and emergencies. The book is written for laymen, but, unlike some popular manuals on first aid to the injured, is accurate, reliable and based on scientific knowledge. In his preface the author emphasizes that it "is not intended to supplant the physician or surgeon, but is designed solely as a guide in emergencies until the arrival of medical aid or when such aid cannot be procured." Though available only to the enlightened, it should prove of definite value in diffusing intelligent knowledge of surgical and medical emergencies and their immediate treatment.

*An Introduction to Experimental Psychology.* By CHARLES S. MYERS, M.D., Sc.D., Lecturer in Experimental Psychology in the University of Cambridge. Cambridge: University Press. 1912.

This is another addition to the Cambridge Manuals of Science and Literature, a number of which have already appeared and been favorably reviewed in these columns. This volume of 156 pages including the index is an attempt rather to illustrate methods of research in experimental psychology than to give an exhaustive account of the subject. In following out this plan, the following matters are discussed: (1) Color vision. (2) Touch, temperature and pain. (3) Müller-Lyer illusion. (4) Experimental esthetics. (5) Memory; with two final chapters (6) on mental tests and their uses. The text is written in the simplest possible manner, and sufficient illustrations are introduced by way of explanation. Such brief summaries as this are certainly desirable in the advancing state of our knowledge, with the accompanying impossibility of mastering its many details. A book of this character is naturally not intended primarily for the professional psychologist, but rather for those who have a general interest in the subject; and also it is to be hoped for those who later may become psychologists.

*Pellagra. An American Problem.* By GEORGE M. NILES, M.D. Illustrated. Philadelphia and London: W. B. Saunders Company. 1912.

This book is the first original work in English on pellagra. Hitherto the chief English treatise on the subject has been the translation by Drs. Lavinder and Babcock of Marie's French volume (reviewed in the issue of the JOURNAL for Feb. 23, 1911, vol. clxiv, p. 274), itself an abridgment of Lombroso's monumental, authoritative Italian work. Dr. Niles's monograph is essentially American in material, in manner and in its application to the problem of pellagra in the United States. It is well illustrated by clinical plates. In the chapter discussing the etiology of pellagra, the author, after impartial presentation of all theories, finally subscribes to Lombroso's belief that "in pellagra we are dealing with an intoxication produced by poisons developed in spoiled corn through the action of micro-organisms in themselves harmless to man." If this hypothesis prove true, the disease may be considered in the class of food intoxications. Whatever conclusion time shall establish does not affect the present value of Niles's book. The latter, however, rather supplements than replaces the translation of Marie's work, which still presents the widest general study of the disease, and contains the best and completest available chronologic and alphabetic bibliography of its literature.

*Surgery and Society. A Tribute to Listerism.* By C. W. SALEEBY, M.D., F.R.S.E. New York: Moffat, Yard & Co. 1912.

Making its appearance just at the time of Lister's death, this book has a peculiar appropriateness as expressing the author's "gratitude for great benefit lately received from surgery and desire to make some reparation for too hard words spoken of the surgical profession some years ago under stress of intense and honest conviction." Its further purposes, as averred in a prefatory note, are "to state the case for surgery, and, therefore, for science, in modern society; once more to challenge the anti-vivisectionists; and to discuss the place and needs of surgery in the new experiments for national control of disease." These comprehensive aims the author pursues with characteristic seriousness and intensity. His book is a series of essays on the development of modern surgery and on some of its sociologic aspects, relations and applications. His strong feelings as a eugenicist and medical publicist pervade and form an atmosphere for all that he writes. Indeed, his intense earnestness and conviction are at once the weakness and the strength of this work, as of his "Parenthood and Race Culture" (reviewed in the JOURNAL for Feb. 17, 1910, vol. clxii, p. 223): they lead him to take himself and his opinions with disproportionate seriousness, but at the same time they carry conviction of that honest nobility of purpose which has been the secret of English greatness. Dr. Saleeby's account of his personal experiences with surgery is perhaps over-detailed; but for the general purpose of his work and for his defense of animal experimentation, his book should be read with interest and appreciation.

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THE MEANING OF MEMORIAL DAY.

THE annual recurrence of Memorial Day means to many little more than another holiday, with its opportunity for rest and recreation. To those, however, who have at heart the deeper things of life, it means a time for reflection upon the perennial and immortal nature of human heroism in service. At its first institution, the day was one of personal mourning for those who had died on the winning side of a great cause. Now, after the lapse of a half century, the wounds of that terrible conflict are healed and its wrongs forgotten in the triumph of the principle of right which it established. Viewed from the broader standpoint, that principle is not solely one of individual freedom, but rather of universal service; it is not merely that none shall be slaves but that all shall be servants, devoted equally to the common good. And it is in the demonstration of that principle and its extended application that our country from the beginning has fulfilled a function in the history of civilization.

In few fields more than in that of medicine has the past half century seen the development of this principle in practice. Medical conditions at the time of the Civil War, though far better than they had been in any previous great war, were still pitifully crude, and largely limited to remedial measures much less perfect than those of to-day. One who wishes to gain a vivid yet temperate idea of them should read Dr. Oliver Wendell Holmes's account of scenes at the front and in the war, in "My Captain." But though military surgery was even then so crude, the professional and Christian heroism of those who practiced it was as great and true as that of Sir Philip Sidney at the siege of Zutphen. There is no brighter page in the history of our Civil

War than that which tells of the heroism and devotion and sacrifice of nurses and physicians, North and South, who ministered without discrimination to those in need, and found often an obscure death without seeing the fruition of their service.

At the close of the nineteenth century, when our country was engaged in a relatively minor conflict with a sister nation, the conditions of medical service in war were much improved. Asepsis had joined hands with anesthesia to mitigate the horror of surgery, and organization had raised to far greater efficiency the means of caring for those wounded in battle. Yet even then the prophylaxis of the grave infections was not understood, and far more lives were sacrificed to disease than to trauma. It will perhaps be one of the marvels of history that a war of such insignificant proportions as that with Spain should be the occasion for such momentous progress in medical science. The discovery by Reed and his associates of the mode of transmission and the means of prevention of yellow fever was another and a crowning demonstration of the kind of heroism in service that medicine demands of and inspires in her pupils. The subsequent establishment of efficient sanitation and hygiene in Cuba, in Porto Rico and in the Philippines were further examples of the great victories of peace in medical science. And most recently the achievements in sanitation at the Canal Zone, the demonstration of the efficacy of antityphoid inoculation and the progress of public health measures in civil communities afford evidence of continued progress in application of the great principle of universal service for the universal good to which our nation is dedicated.

From Memorial Day, it may seem a far cry to these manifestations of the great truth which it commemorates. Yet these are all steps towards the "far-off divine event" which those who fought that great conflict foresaw but dimly and died without beholding. In that lay their heroism, the heroism that is willing to serve and to die, if need be, out of devotion to a principle whose triumph can be described only by the inner eye of that faith which is "the substance of things hoped for, the evidence of things not seen." That is the faith which they kept and in which they died; that is the faith in which medicine, in which the world of to-day, calls upon all men to live and labor.

For physicians, then, as for all others, Memorial Day has its special meaning. It is no longer a day of lamentation for the dead but a day of

sober rejoicing that they lived so nobly and so well, and of inspiration to stand by the ideals which they served and by newer ones whose revelation their service has made possible. Coming as it does at the acme of spring, the day symbolizes the eternal regeneration of life out of apparent death, the victory of right, the resistless march of truth, in whose heroic service all are called to join the noble army of those to whom this day is a memorial.

#### THE OWEN BILL OR THE SMOOT BILL.

THERE are at present pending before the United States Congress two measures, known respectively as the Smoot bill and the Owen bill, relative to the administration of the activities of the federal government pertaining to public health. At present these functions are divided between the Treasury Department and the Department of Commerce and Labor. It is proper that physicians throughout the country should know the respective provisions and merits of the two bills which have in view the centralization and co-ordination of these administrative powers and responsibilities.

The Smoot Bill provides for bringing together under the Treasury Department the Division of Vital Statistics, now a part of the Department of Commerce and Labor, and the Public Health and Marine-Hospital Service, which is now attached to the Treasury Department. This would be a step in the right direction but it would seem better when making a change to go farther. All the activities of the Federal Government pertaining to public health should be brought together under a single *independent* head, who should be directly responsible for the efficiency of his service and who should have the right to apply directly to Congress for the necessary appropriations.

The Owen bill aims to accomplish this very thing. It asks for an independent public health service subdivided as follows: into the Bureau of Public Health and Marine-Hospital Service, the Bureau of Foods and Drugs, the Bureau of Vital Statistics, the Bureau of Child Conservation, the Division of Sanitary Engineering, the Division of Personnel and Accounts and the Division of Publications. This arrangement would serve to correlate under a single responsible administrative head all the federal activities pertaining to public health, and would not only promote executive efficiency but would save unnecessary duplication of labor with its attendant expense.

Of these two measures there seems little question which is preferable. The Owen bill deserves the support of all who appreciate the great need which exists of broader activity and greater thoroughness in public health work of national scope.

#### MEETINGS IN CONNECTION WITH THE AMERICAN MEDICAL ASSOCIATION.

IN connection with the annual meeting of the American Medical Association, to be held next week in Atlantic City, N. J., there will be meetings of various affiliated organizations. Of these, three merit particular mention.

The American Academy of Medicine, specializing in medical sociology, will hold its thirty-seventh annual meeting from May 31 to June 2. The presidential address will be delivered by Dr. Alexander Richter Craig, of Chicago. The special topics to be considered at the several sessions are the conservation of school children, the medical problems of immigration, the prevention of infant mortality and Western medicine in Eastern lands. Among the New England physicians who will present papers on one or other of these subjects is Dr. William H. Davis, of Boston, who will speak on "The Relation of the Foreign Population to the Mortality and Morbidity Rate."

The American Medical Editors' Association will hold its annual meeting in Atlantic City from June 1 to 3.

The American Association for Labor Legislation announces that its second National Conference on Industrial Diseases will be held from June 3 to 5 in Atlantic City. The special topics to be considered at the several sessions are the investigation of industrial diseases, health problems in modern industry, and state promotion of industrial hygiene. Dr. Richard C. Cabot, of Boston, will read a paper on "The Function of Hospitals, Clinics and Exhibits in the Prevention of Occupational Diseases," and Dr. William C. Hanson, of Boston, on "Education for the Prevention of Industrial Diseases." On June 5 will be held a joint session with the American Medical Association, at which Dr. David L. Edsall, the recently appointed Jackson professor of clinical medicine at the Harvard Medical School, will present a paper on "Industrial Poisoning."

A special feature of this conference will be an industrial hygiene exhibit, for which physicians and inspectors of industrial establishments are bringing together illuminating illustrations of industrial processes dangerous to health, as well as



photographs and charts showing the effects of those peculiar hazards now known as diseases of occupation. It is expected that this gathering of experts will give new impetus to the movement for the promotion of industrial hygiene, and serve to stimulate general and special interest in the scientific exhibit to be made by this Association at the International Congress on Hygiene and Demography to be held next September at Washington, D. C.

#### MEDICE, CURA TEIPSUM.

IN Beluchistan it is said to be a native custom that on prescribing any medicine, a physician shall himself take, in the presence of the patient, the same dose that he orders. This custom, which doubtless had its origin in the patient's fear of being poisoned, has certain obvious advantages and disadvantages. Doctors are proverbially unwilling to take their own medicine, follow their own advice or observe their own precepts. The Beluchistan custom may now be unnecessary to guard patients against intentional malpractice, but may save them from much unpleasant or unnecessary medication. Moreover, it should serve to give physicians a good first-hand knowledge from experience in the physiologic and therapeutic action of drugs. Some enthusiastic medical students have been known to supplement their course in pharmacology by personal experimentation. Such a procedure, however, is in several respects dangerous and not generally to be commended. Sometimes a recalcitrant patient may be induced to swallow a needed medicine by the doctor's offer to take half of the potion. One physician in our city has employed this method with particular success, in the administration of saline purgatives, by mixing double the dose, so that the patient actually took the amount originally intended. Such a device, though perhaps harmless to a young doctor, might prove inconvenient to one with a more extensive practice. It would surely require a physician of idiosyncratic immunity to survive the habitual ingestion of all the medicine he prescribes in a busy daily professional course. The effect of this custom on the native doctors of Beluchistan is not known. Presumably each one of them has but few patients, and can therefore observe it safely. Perhaps, however, it has happily led them to become therapeutic nihilists, exclaiming with Macbeth, "Throw physic to the dogs, I'll none of it."

#### RE-ANCHORING THE HOME.

UNDER the above title, Mr. R. W. Bruère, in the *May Harper's*, reviews some of the economic and social aspects of disease which for a score or more years the physician and the sanitarian have known and appreciated, but of which, despite sanitary propaganda, despite many movements against the factors which predispose to disease, the average layman and woman, not intimately affected in the premises, remains as yet uninformed to any really effective degree. The modern public-health officer, observes Mr. Bruère, takes an "essentially religious attitude towards life. The peculiar character of his responsibilities compels him to visualize the community as a whole, to concern himself not so much with individual cases, or, indeed, ultimately with disease at all, as with the economic and social conditions that are at the foundation of public health."

The economic problems of public health are now in general much more difficult of solution than the medical. Physicians have plainly demonstrated the possibility of eliminating many infections from human experience, — cholera, the plague, smallpox, yellow fever, the dysenteries, tropical malaria, typhoid, tuberculosis. It is a rather gloomy reflection upon our civilization that wherever business interests have been involved these infections have invariably been suppressed: international quarantine, which has been established mainly in obedience to mercantile behests, has attended to that. Cholera, yellow fever, smallpox, malaria — in whatever port these diseases have threatened to lay up crews and to detain cargoes, they have been vanquished. As soon as the public will be made to understand how the individual citizen loses by reason of typhoid and smallpox, these diseases will also be eradicated.

The management of many diseases, as all practitioners in the dispensaries and among the poor know from pathetic experience, is a matter now not of medication, but of means. How saturated with bitter irony is it for the physician to explain to the poor consumptive, for example, that his cure depends upon rest, fresh air and sunshine in the country, and abundance of rich, wholesome, nutritious food, when all such things are beyond the reach of the poor.

What can be done by a happy union of scientific medicine and public-health work is known by every physician. For an example: Before 1905 diphtheria was very fatal in Pennsylvania; between 40 and 50% of the cases died, most of them being among the poor. The State Health De-

partment promptly began a campaign against diphtheria. Up to Dec. 31, 1910, it had treated 27,000 poor patients, furnishing antitoxin and the services of physicians free. During this period the mortality from the disease was 84%. Over 20,000 exposed persons were immunized. Of these but 2% developed diphtheria; and among the immunized the death-rate was less than one ninth of 1%. Thus were between two and three thousand lives saved each year, at a cost of some seven dollars apiece.

Yetsuch campaigns against infection are but preliminary. They are the easiest to wage; success is immediate and brilliant, and the only opposition to them is the public inertia. We come to a vast number of difficulties when we consider heart and kidney disease and insanity (which are all on the increase), hygienic ignorance (still very common among the poor and by no means unheard-of among the prosperous and the educated), unhealthy tenements, unsanitary factories and so forth. Medicine is fully equipped to cope with such difficulties; it must now have for allies an educated public and material resources.

#### MEDICAL NOTES.

A BRITISH CENTENARIAN. — Mrs. Sophia Gibbons, who died on May 3 at Torquay, Devonshire, England, was locally reputed to be over one hundred years old.

MEDICAL NEWS FROM SIAM. — Report from Bangkok states that the king of Siam has authorized the establishment in that city of a royal university to consist of eight faculties, including one of medicine. It is announced that Prince Damrong, Siamese minister of the interior, has founded at Bangkok a Pasteur Institute in memory of one of his daughters, who died recently of rabies.

PUBLIC TELEPHONES AND TUBERCULOSIS. — Dr. H. R. D. Spitta, of St. George's Hospital, London, has recently examined the mouthpieces of a number of public telephones in that city to ascertain whether they harbor tubercle bacilli. A number of guinea pigs were inoculated with washings from these mouthpieces, but none of them developed tuberculosis.

A RUSSIAN BIOLOGIC PUBLICATION. — A recent issue (vol. xvii, No. 1) of the *Archives of the Biologic Sciences*, published by the Imperial Institute of Experimental Medicine at St. Petersburg, Russia, contains valuable research articles

by Dr. Youchtchenko on "The Richness of Animal Organs in Nuclease," by Dr. Grinew on the "Structure and Functions of the Islands of Langerhans," by Drs. Navrotaky and Békenaky on "The Piroplasmosis of Dogs," and by the Misses Bonrovie on the "Biologic Peculiarities of the Cholera Vibrio of the Epidemic of 1908-1910."

A MUNIFICENT MEMORIAL GIFT. — Report from Philadelphia on May 21 states that Mr. Peter A. B. Widener, of that city, has established an endowment fund of \$4,000,000 in memory of his son, George D. Widener, who was lost in the wreck of the *Titanic*.

"The new fund comes as a further donation to the Widener Home for Crippled Children, founded by Mr. Widener, Sr., in 1906, in memory of his wife. Added to the \$3,000,000 already turned over, it will enable the trustees to place the home in the front rank of helpful charities and to maintain and teach all the crippled children who come to it. It will establish an alumni hotel in the thirty-five-acre park at York Road and Broad Street in which cripples who have been graduated from the school may find a home suited to their means. If they can afford to pay only fifty cents a week, or nothing, they will be taken in. It will provide a considerable amount for the relief of the crippled of the city who are not in the school. It will help to maintain at Atlantic City a finely equipped summer school for the children.

"Mr. Widener made his endowment by executing a deed of trust to the Land Title and Trust Company, in which he turned over 4% securities with a face value of \$4,000,000."

This munificent gift is another notable example of a kind of memorial better than "marble or the gilded monuments of princes."

TRANSMISSION OF TRYPANOSOMIASIS. — In a recent issue of the *Annals of Tropical Medicine and Parasitology*, published by the Liverpool School of Tropical Medicine, is printed the first interim report of the Luangwa Sleeping Sickness Commission of the British South Africa Company, describing experiments by Mr. Alan Kinghorn and Dr. Warrington Yorke in Nawaia, Northern Rhodesia, on the transmission of human trypanosomes by *Glossina morsitans*, and on their occurrence in game. The results of these experiments are summarized as follows:

"(1) The human trypanosome, in the Luangwa Valley, is transmitted by *Glossina morsitans* Westw. (2) Approximately 5% (4.76) of the flies may become permanently infected and capable of transmitting the virus. (3) The period which elapses between the infecting feed of the

flies and the date on which they become infective is approximately fourteen days. (4) An infected fly retains the power of transmitting the disease during its life, and is infective at each meal. (5) Mechanical transmission does not occur if a period of twenty-four hours has elapsed since the infecting meal. (6) Some evidence exists to show that in the interval between the infecting feed and the date on which transmission becomes possible the parasites found in the flies are non-infective. (7) *Glossina morsitans*, in nature, has been found to transmit the human trypanosome. (8) Certain species of buck, viz., waterbuck, hartebeest, mpala and warthog, have been found to be infected with the human trypanosome. (9) A native dog has been found to be infected with the human trypanosome."

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, May 28, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 33, scarlatina 25, typhoid fever 13, measles 139, smallpox 0, tuberculosis 66.

The death-rate of the reported deaths for the week ending May 28, 1912, was 15.50.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, May 25, 1912, was 197, against 238 the corresponding week of last year, showing a decrease of 41 deaths, and making the death-rate for the week, 14.27. Of this number 98 were males and 99 were females; 187 were white and 10 colored; 127 were born in the United States, 68 in foreign countries and 2 unknown; 50 were of American parentage, 124 of foreign parentage and 23 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 32 cases and 1 death; scarlatina, 22 cases and 0 deaths; typhoid fever, 12 cases and 1 death; measles, 191 cases and 1 death; tuberculosis, 57 cases and 20 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 22, whooping cough 2, heart disease 23, bronchitis 1. There were 17 deaths from violent causes. The number of children who died under one year was 42; the number under five years, 52. The number of persons who died over sixty years of age was 56. The deaths in hospitals and public institutions were 78.

**REUNION OF FIELD HOSPITAL CORPS.** — The first annual reunion of the field hospital corps of the Massachusetts Volunteer Militia was held in Boston on May 25, and attended by a large number of military surgeons.

**SEIZURE OF ADULTERATED VINEGAR AND OIL.** — In Boston last week three barrels of vinegar and three of olive oil were seized by federal officials, on information alleging that the contents of the barrels were adulterated.

**MALDEN MILK AND BABY HYGIENE ASSOCIATION.** — A local Milk and Baby Hygiene Association was organized last week in Malden, Mass. Among the vice-presidents elected are Dr. Godfrey Ryder and Dr. F. A. Hodgdon, of that city.

**DENTAL CLINIC AT THE CARNEY HOSPITAL.** — On Saturday of last week, May 25, a new dental clinic for school children was opened in the outpatient department of the Carney Hospital, South Boston, under the charge of Dr. George Sullivan. Twenty patients were treated on this first day, and it is expected that the clinic will rapidly increase in size.

**BOSTON MILK AND BABY HYGIENE ASSOCIATION.** — At a meeting last week of the council of the Boston Milk and Baby Hygiene Association, it was reported that in response to a recently issued appeal (noted in the JOURNAL for May 16), the sum of \$1,700 has been received and thirty new subscribers registered. Five thousand dollars more are needed to pay the expenses of the Association until October 1. Mr. Michael M. Davis, director of the Boston Dispensary, was elected a member of the council.

**REPORT OF WORCESTER BOARD OF HEALTH.** — The recently published annual report of the Board of Health of the city of Worcester, Mass., records the activities of that body for the calendar year 1911. During this period the number of deaths, exclusive of stillborns, was 2,357, representing a mortality of 15.07 per thousand, the lowest rate on record for this city, with the exception of that in 1902, which was exactly the same. The need is emphasized for more sanitary inspectors and for a new ward for minor infectious diseases in the isolation hospital. Reports of the resident physician of this institution, and of the milk inspector, are appended.

**APRIL BULLETIN OF MASSACHUSETTS BOARD OF HEALTH.** — The latest monthly bulletin of the Massachusetts Board of Health shows that in April there were in this state 3,170 deaths, of which 1,021 were due to infectious diseases. During the month there were reported 3,141 cases of measles, 719 of pulmonary tuberculosis, 478 of scarlet fever, 329 of diphtheria, 97 of smallpox,

87 of typhoid fever, and 56 of cerebrospinal meningitis. Of 570 samples examined in April by the state food and drug inspector, 138 were found to be adulterated or divergent from the standard required by law. Of these the greatest number were milk.

#### TRAINING SCHOOL GRADUATION EXERCISES. —

At the annual graduation exercises of the Children's Hospital Training School in Boston on May 23, the principal address was delivered by Dr. Edward H. Bradford of this city. Diplomas were awarded to eight pupil candidates.

At the annual graduation exercises of the Boston City Hospital Training School on May 24, the address to graduates was given by Dr. Charles M. Green, of this city, on "The Personal Attributes of a Nurse as Factors in Her Success." Diplomas were awarded to thirty-six pupil candidates.

#### NEW YORK.

#### PROGRESS IN PREVENTION OF TUBERCULOSIS. —

In the annual report of the State Charities Aid Association encouraging reports are made by the committee on the prevention of tuberculosis. Headway has been made, it is stated, in carrying out the propaganda of "No un-cared-for tuberculosis in 1915," which has been endorsed by a large number of other organizations. Work is progressing on the plan to open six more dispensaries and three open-air schools, the employment of fifteen additional nurses, and the maintaining of four summer camps; while assurance has been received of the construction of nine county and two city hospitals for tuberculosis.

**DIVISION OF CHILD HYGIENE.** — The last monthly bulletin of the City Health Department contains a detailed notice of the history, functions and organization of the Division of Child Hygiene of the department. It was created Aug. 19, 1908, ranking as the first bureau established under municipal control to deal with the supervision of the health of children from birth to the legal working age. Previous to that time the Health Department had been devoting more and more attention to children's care, and this division was the result of a gradual development. For many years an extra corps of physicians was employed during the summer months in tenement-house work, with a view to the reduction of infant mortality, and in 1897 a staff of one hundred and fifty medical school inspectors was appointed. In the autumn of 1902 the first staff of municipal

school nurses employed in the United States was established by the department, but up to 1905 the system of school inspections dealt solely with the subject of contagious affections. In that year careful investigation showed that a large number of the children in the public schools were suffering from uncorrected physical defects, and the work of the inspectors was accordingly extended so as to include a complete physical examination of each child. It was found, however, that, notwithstanding the fact that parents were duly notified when defects were found, only about 6% of the children affected were placed under medical care; and it was the realization of this serious defect which finally led to the establishment of the Division of Child Hygiene. The activities of this division have been broadened and elaborated from time to time, and at present its functions include: (1) The control and supervision of midwives; (2) the reduction of infant mortality; (3) the supervision of foundling babies boarded out in homes; (4) the inspection and sanitary supervision of day nurseries; (5) inspection of institutions harboring dependent children; (6) medical inspection and examination of school children; (7) vaccination of school children; (8) enforcement of that part of the Child Labor Law which relates to the issuing of employment certificates. The functions of each of these subdivisions are described in detail; after which the results accomplished by each in 1911 are given. In the report of the work of that devoted to the reduction of infant mortality the statistics of the milk stations are published, and from this it appears that from April 15 to Oct. 15 there were 11,644 babies under the control of the Association of Infants' Milk Stations. Among these there occurred 294 deaths, a death-rate of 2½%.

**ATTACK BY ANTI-VIVISECTIONISTS ON DR. NOGUCHI.** — The anti-vivisectionists, with their usual disregard for accuracy, have made an attack upon Dr. Noguchi, whose scientific researches have reflected so much honor upon himself and the Rockefeller Institute.

The charge is that, according to statements by him in a paper in the *Journal of Experimental Medicine*, he inoculated with syphilis 146 persons who were free from that disease; and this startling statement having been brought to the attention of District Attorney Whitman, he at once began an investigation. This very shortly led him to work in co-operation with President Lindsay, of the Society for the Prevention of Cruelty to Children, to whom it had been reported that

children were being used for experimental purposes by Dr. Noguchi. The investigation ended on May 20, when Mr. Whitman made the following unequivocal statement: "The statements that came to my office reflecting upon the Rockefeller Institute were circumstantial and carefully particular as to details. It was a most horrible charge. Even if there was the shadow of a thread to hang the story upon, it was enough to warrant instant and drastic action. Mr. Lindsay and my office worked hand in hand, and we are convinced that there was really no foundation for the charge. It appears that Dr. Noguchi has been trying for a long time to obtain a pure culture of the disease in question, and, this having been obtained, it was rendered absolutely innocuous by treatment, and was then used as an aid to diagnosis, in order to ascertain whether certain complaints came from this disease or whether they were due to some other cause. The experiments, I believe, have been highly successful, and the practice of medicine has been greatly advanced by the experiments. At any rate, it is certain that no person has been harmed by them." The charge was made in a circular issued by the Vivisection Investigation League, and Jerome D. Greene, general manager of the Rockefeller Institute, has prepared an elaborate reply in which he characterizes it as "one of the most mendacious and malicious slanders that has appeared in the long catalogue of misrepresentations for which the anti-vivisectionists are responsible." He gives a detailed description of Dr. Noguchi's experimental work in developing his luetin test and its successful practical results, stating that his diagnostic method has been employed in thousands of cases in Europe and America without injury being inflicted in a single instance, and in conclusion cites a number of specific instances in which it proved of the highest possible service. The perpetrators of this daring outrage are certainly richly deserving of punishment, but whether any prosecutions for criminal libel are to be instituted is not at present known.

**CONTINUED DECREASE IN DEATH-RATE.** — For the fifteenth consecutive week the death-rate in 1912 has been lower than that in the record year of 1911. The rate for the seven days ending Saturday, May 18, was 14.75, as against 16.27 for the week ending May 20, 1911, a decrease of 1.52 points, equivalent to a decrease of 151 deaths. The rate for the first twenty weeks of 1912 now stands at 15.68, as against 17.04 for the first twenty weeks of 1911.

## Current Literature.

### MEDICAL RECORD.

MAY 18, 1912.

1. \*DEARBORN, G. VAN N. *Notes on the Neurology of Voluntary Movement.*
2. WALSH, J. J. *Vaccine of the Tuberculous; a Study of the Dual Existence of Contagious Diseases.*
3. BLANCHARD, W. *The Passing of Bismuth Paste.*
4. ZIEGEL, H. F. L. (1) *Pneumonia Simulating Localized Peritonitis.* (2) *Typhoid Fever Observed During the Incubation Period.*
5. AMENDE, C. G. *A Contribution to the Treatment of Tuberculosis.*
6. BUCKLIN, C. A. *A New Crutch for Exposing the Perineum.*

1. Dearborn summarizes his article as follows: "As a necessary preliminary to the exact neurology of the will, every deliberate movement, however simple, must be accorded a personal motive, often intricate, whose factors, in part merely neural, must be sought for. Each of these factors, psychological or physiological, implicit in a voluntary movement, has as its concomitant a functional set of nervous impulses. Because of the variety and complexity of the factors determining it, every deliberate movement must be considered the resultant of influences coming from practically every part of the brain or even of the entire gray fabric of the nervous system." [R. M. G.]

### NEW YORK MEDICAL JOURNAL.

MAY 18, 1912.

1. GOFFE, J. R. *The Treatment of Prolapsus of the Uterus with Attendant Cystocele and Rectocele.*
2. SEVER, J. W. *Apophysitis of the Os Calcis.*
3. BATES, W. H. *Eye Training for the Cure of Functional Myopia.*
4. CYRIAX, E. F., AND KELLGREN-CYRIAX, A.-J. *The Mechanotherapeutics of Muscular Torticollis.*
5. PEDERSEN, V. C. *Fragment of Glass Irrigating Nozzle Removed from the Bladder without Open Operation.*
6. BIERHOFF, F. *Notes on Conditions Resulting from Ritual Circumcision.*
7. PERSSON, G. A. *Treatment of Chronic Diseases at Spas, Particularly with Reference to the Modern Conception of Radium Emanation.*
8. \*PFAHLER, G. E. *The Causes of Pain in the Upper Right Quadrant of the Abdomen as Determined by Means of the Roentgen Rays.*
9. BRADY, W. *Catching Cold.*

8. An abstract of this paper was published in the issue of the JOURNAL for May 9, 1912 (vol. clxvi, p. 710). [R. M. G.]

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

MAY 18, 1912.

1. SPILLER, W. G., AND MARTIN, E. *The Treatment of Persistent Pain of Organic Origin in the Lower Part of the Body by Division of the Antero-Lateral Column of the Spinal Cord.*
2. CADWALADER, W. B., AND SWEET, J. E. *Experimental Work on the Function of the Anterolateral Column of the Spinal Cord.*
3. HOBIE, G. A. *The Blood-Picture of the Auto-Intoxication Due to Chronic Colonic Stasis.*
4. \*TONNEY, F. D., AND PILLINER, H. H. *The Utility of the Vacuum Bottle in Infant Feeding.*
5. \*CUMMING, J. G. *Hydrophobia (Rabies), with Report of a Case.*
6. \*BISHOP, E. S. *Morphinism and Its Treatment.*
7. V. RUCK, K. *A Practical Method of Prophylactic Immunization against Tuberculosis. A Preliminary Announcement.*
8. LINTZ, W. *A Rapid Staining Funnel.*
9. NORRIS, R. T. *The Female Perineum from a General Surgeon's Point of View.*
10. CRANSTON, W. J. *Salvarsan in Pellagra. Report of Cases Treated at the Georgia State Sanatorium in 1911.*

11. ROGERS, A. W. *A Case of Fatal Hematoporphyrinuria Following the Prolonged Use of Trional and Sulphonal.*
12. SMITH, M. E. *A Face Mask.*

4. Tonney and Piflinzer show that the ordinary thermos or vacuum bottle is an excellent receptacle for infants' modified milk, provided the temperature of the milk while being kept in the bottle does not fall below 115° F. If the temperature is between 150° and 115° F. the milk will be effectually pasteurized, but below the latter temperature bacteria begin to multiply rapidly. Keep the bottle in a warm place. Milk thus prepared can be safely kept for ten to twelve hours.

5. Cumming writes an interesting article on rabies. He states that large numbers of cases during the winter of 1906 and 1907 disprove the "dog-day theory" of its incidence. All mammals are subject to this disease, although it is chiefly confined to dogs. The definite specific virus is transmitted by the bite through the saliva of the affected animal. The normal habitat of the virus is the central nervous system. Cauterization of an infected wound is the first and most important measure to be instituted. All excess of caustic substance should be removed so as to prevent any more sloughing of tissues than possible. Formaldehyde solution has been found to be a specific disinfectant for this virus.

6. Bishop's article on the treatment of morphinism is thorough and interesting and offers many practical suggestions and advances over former methods, especially in the detailed care of the patient. [E. H. R.]

#### DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT. No. 14.

APRIL 4, 1912.

1. FREIR, E. *The Treatment of Diphtheria.*
2. FRAENKEL, E. *On So-Called Hodgkin's Disease (Lymphomatosis Granulomatosa).*
3. RÖTHER, *Studies on Spontaneous Tuberculosis in Rabbits.*
4. \*HESSE, A. *The Secondary Effects of Hormonal.*
5. BLUM, R. *Lead-Poisoning.*
6. MULZER, P. *Case Reports Illustrating the Early Treatment of Syphilis with Salvarsan.*
7. POHLMANN, A. *The Use of a Physiological Salt Solution Containing Soda in the Wassermann Reaction.*
8. HERZ, P. *Prolapsus Ani et Recti.*
9. ENGEL, E. *Scarification of the Uterus by the General Practitioner.*
10. BERGER, D., AND HENIUS, M. *The Röntgen Ray in the Diagnosis and Treatment of Diseases of the Stomach and Intestines.*
11. ENGELKEN-DRAGER. *A Combined Injection and Suction Apparatus.*
12. SLEPINSKI, A. N. *The Preparation of the Neisser-Siebert Luco-Propylactic.*
13. DABULER. *The Effect of Tropical Climate on the Pigmentation of Europeans.*
14. KAUF, J. *Open-Air Sanitation, Housing and Tuberculosis.*

4. The author reviews the literature on the use of hormonal and takes exception to the general statement that no dangerous results arise from its use. He reports in detail a case of severe collapse, occurring during the intravenous administration of the drug. He believes that hormonal has a markedly depressing effect on blood-pressure, apparently due to the formation of a substance, "vaso-dilatin," in the gastric and intestinal tracts. He believes that the blood-pressure should be ascertained on every patient before administering hormonal and that a low pressure is a contra-indication to its use. He also suggests that adrenalin should be administered simultaneously to guard against a fall in blood-pressure. He further emphasizes the fact that the use of hormonal is not free from danger and cautions against its use in private practice. [C. H. L., JR.]

#### No. 15. APRIL 11, 1912.

1. JUNG, T. *The Treatment of Climacteric Disturbances of Women.*
2. SEITZ, L. *Hyperemesis, A Toxemia of Pregnancy.*
3. \*NEUSTAEDT, M., AND THRO, W. C. *Experimental Poliomyelitis Acuta.*
4. VORBRÖDT. *Family Paralysis.*

5. VOSS, G. *On Psychological Aids to Diagnosis in Modern Psychiatry.*
6. RICKARTZ, H. C. *On the Question of Withholding Salt in Hypersecretion of the Stomach.*
7. GRAUL, G. *Transitory Motor Aphasia with Paraplegia in Diabetes Mellitus.*
8. MEYER, C. *The Dispensing of Tuberculin.*
9. WAELLI, A. *A Plaster Cast of the Urethra.*
10. BRUHL, G. *The Participation of the Ears, Nose and Throat in Metabolic Diseases.*
11. \*HECHT, H. *Reinfection after Abortive Treatment of Syphilis.*
12. LENEMANN. *The Present Status of the Treatment of Syphilis in Practice.*
13. BERGER, B., AND HENIUS, M. *Röntgen Rays in the Treatment of Diseases of the Stomach and Intestines. (Second paper.)*
14. ZERNIK. *New Preparations and Specialties.*
15. KAUF. *Open-Air Sanitation, Housing and Tuberculosis. (Second paper.)*

3. The author reviews the literature on this subject and reports a case which he believes to be one of reinfection with syphilis after cure by early excision of the primary lesion and treatment with salvarsan and calomel. During each infection the patient showed a primary lesion from which spirochetes were recovered; glandular enlargement, roseola and a positive Wassermann reaction. Between the first and second infections he was free from symptoms and the Wassermann reaction was negative. The author discusses at length the reasons for believing the case to be one of true reinfection and points out its bearing upon the development of immunity in syphilis.

11. The authors carefully collected the dust from rooms in which patients with poliomyelitis were confined. This dust was extracted with normal salt solution, the extract passed through a Berkefeld filter and the filtrate injected into two monkeys. Both developed symptoms of poliomyelitis and autopsy showed characteristic lesions. A third animal, inoculated with the spinal fluid of the first two, died after developing symptoms typical of poliomyelitis. Autopsy confirmed the diagnosis. At the end of thirty-three days the control animals were all in good health.

The authors conclude: (1) that the etiological factor of poliomyelitis may be communicated in dust, and (2) that it probably gains entrance to the human body through the nasopharynx. They state that any effective prophylaxis must be based on these facts. [C. H. L., JR.]

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 15.

APRIL 9, 1912.

1. PAYR. *Technic of Arteriovenous Transfusion of Blood.*
2. KOFHIS, M. *Conduction Anesthesia on Abdomen, Breast, Arm and Neck by Injection through the Intervertebral Foramen.*
3. STIERLIN, E. *Röntgenological Observations on Spasm of the Stomach. (To be concluded.)*
4. FISCHER, H., AND MEYER-BETZ, F. *Hemibilirubin in Health and in Disease of the Liver.*
5. BESSAU, G. *Differentiation of Bacterial Poisons.*
6. BICKEL. *Complement Binding — Titration of Alexins.*
7. IWASCHENLOW, G. *Anaphylactoid Phenomena of the Repeated Injection of Salvarsan.*
8. BERGER, F. *Statistical and Clinical on the Salvarsan Treatment of Syphilis.*
9. GENNERICH. *Treatment with Collargol of Gonorrheal Rheumatism and Other Complications.*
10. WEBER, A. *A Very Sensitive Membrane for Registering Heart-Sounds.*
11. RIECK. *Pituitrin not to be Recommended for Labor Pains in Private Houses.*
12. ASAM, W. *Danger of Death from Anaphylaxis.*
13. LEBSCHKE, M. *A New Retractor.*
14. HERRING, H. E. *Sudden Death from Fibrillation of the Ventricles. (Concluded.)*

1. Payr describes a new method of direct transfusion of blood which he considers a step in advance of other methods.

2. As the title indicates, the anesthesia described is accomplished by injections into the intervertebral foramina where the nerves leave the spinal column. The injections



are directed against the nerves supplying the intended field of operation and the anesthesia and relaxation of muscles is complete. A great variety of operations, among them gastro-enterostomy, were successfully carried out. The anesthetic was novocain-adrenalin in 1-1½% solution.

14. Hering concludes in this number an interesting article on sudden death due to fibrillation of the ventricles. He says that it is proved that sudden death may occur in very young animals from fibrillation, that death follows in a few minutes and that the respiration continues a little longer. To produce fibrillation two factors at least are necessary: the disposition and the exciting cause. It has been produced in revived human hearts and should be thought of in cases of sudden death where other causes can be excluded. Fibrillation may be produced by chloroform poisoning, or by suffocation, and occurs easily in dilated hearts. Status lymphaticus is cited as a possible predisposing cause. [G. C. S.]

No. 16. APRIL 16, 1912.

1. \*MUCK, H. *Lesions Containing Lepra Bacilli in Animals.*
2. KEHRER, E. *Operative Treatment of Post-Partum Hemorrhage.*
3. FÜHNER, H. *Pituitrin and Its Effective Compounds.*
4. \*WINTERNITZ, H. *Morphine-Free Pantopon and the Effects of Its Other Alkaloids on Humans.*
5. HATA, S. *Salvarsan Treatment of Rat-Bite Disease in Japan.*
6. DEHLER, *Treatment of Typhoid Carriers.*
7. JANSEN, P. *Prostatic Hypertrophy and Bladder Stone; Differential Diagnosis.*
8. ZAHN, A. *Technic of Obtaining Larger Amounts of Blood in Animal Experiments.*
9. FOERSTER, R. *Differential Diagnosis and Treatment of Poisoning with Methyl Alcohol.*
10. KÖLLE, W. *Statistics and Therapeutics of Scleroderma.*
11. HAMM, A. *Can We Recognize a "Bacteriological Indication" in the Treatment of Septic Abortion?*
12. RINGEL. *Pseudohermaphroditismus Femininus.*
13. GRÄF, E. *Treatment of External Anthrax.*
14. HOEHNE, O. *The Question of Intraperitoneal Use of Camphor.*
15. PORGES, C., AND LEIMDÖRFER, A. *Uremia an Acid-Poisoning?*
16. HOFMANN, S. *The External Treatment of Hemorrhoids.*
17. STIERLIN, E. *Röntgenological Observations of the Stomach. (Concluded.)*

1. Muck gives the results of experiments on guinea pigs and goats which were previously treated with dead tubercle bacilli and then infected with lepra bacilli. The lesions produced bore a close resemblance to the typical lesions of tuberculosis and the control animals suffered no injury from the inoculations. If in reality the lesions that appeared had been tubercular the controls would probably have become infected too. The results are explained by the following facts: (1) That Muck has shown that dead tubercle bacilli may be used to produce hypersusceptibility. (2) That the lepra bacillus is biologically related to the tubercle bacillus.

4. The writer says in conclusion that the combined alkaloids of opium from which the morphine has been removed have a hypnotic effect in large doses and that so far as he can judge by his tests on human beings there are no untoward effects. [G. C. S.]

WIENER KLINISCHE WOCHENSCHRIFT. No. 19.

MAY 9, 1912.

1. PLEHN, M. *Tumors in Cold-Blooded Animals.*
2. \*WEISS, M. *The Biochemic Foundation of the Peculiar Disposition of Lung Tissue to Tuberculous Disease.*
3. NATONEK, D. *The Question of the Deycke-Kruse Paratyphoid Bacillus.*
4. HARTSOCK, F. M. *Protective Inoculation against Typhoid.*
5. KOSTIC, M. H. *Vascular Suture and Its Clinical Employment.*
6. ELSCHING. *Indicanuria and Eye Diseases.*
7. ST. BERNHEIMER. *Discussion of Professor Elsching's "Indicanuria and Eye Diseases."*

2. Weiss regards the predisposition of pulmonary tissue to tuberculosis as due to a biochemic peculiarity, namely, that it is very poor in oxydase, which poverty provides a favorable soil for the tubercle bacillus, which flourishes in a tissue with depressed oxydizing power. [R. M. G.]

REVUE DE CHIRURGIE.

MAY, 1912.

1. VANTRIN. *Exclusion of the Duodenum in the Cure of Sub-Pyloric Ulcer.*
2. DELORE, X., AND ALAMARTINE, H. *Two Cases of Sub-Cecal Stenosis with Membranous Pericolicitis.*
3. \*MARRO, A. *Open, Partial and Total Exclusions of the Large Intestine.*
4. VIGNARD, A., AND ARNAUD, L. *The Intra-Peritoneal Injection of One Per Cent Camphorated Oil in the Treatment of Acute Diffuse Peritonitides.*
5. MOCQUOT, P., AND MOCK, J. *The Treatment of Chronic Metritides by Injections of Chloride of Zinc.*
6. BARTHÉLEMY AND DE LA ROQUETTE, M. *Traumatic Lesions of the Testicle and of the Epididymis.*
7. \*GUYOT, J., AND PARCELIER, A. *Contribution to the Study of the Surgical Treatment of Primary Tumors of the Pleura and of the Lung. (Conclusion.)*

3. Marro's article, based on two cases of his personal observation, reviews admirably the subject of short-circuiting operations on the colon, with excellent diagrams illustrative of technic, and a bibliography of ninety-four titles.

7. The authors collect from the literature 39 cases of primary tumor of the pleura or lung treated by operation. They append an excellent bibliographic index of the subject. [R. M. G.]

IL POLICLINICO.

MAY, 1912.

SURGICAL SECTION.

1. ALESSANDRI, R. *Importance and Limits of Bloodless Treatment in Surgical Tuberculosis.*
2. LEOTTA, N. *Hyperplastic Hypophyseary Struma with Acromegaly, a Contribution to the Pathology and Surgery of Hypophyseary Tumors. (To be continued.)*
3. FABANO, M. *Treatment of Diffuse Purulent Peritonitis. (Conclusion.)*
4. CASATI, E. *An Important Coefficient in the Genesis of Hernia.*

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE.

VOL. V. No. 6. APRIL, 1912.

1. \*ROOD, F. *Ether Infusion Anesthesia.*
2. \*PAGE, C. M. *Hedonal Infusion Anesthesia.*
3. ARMSTRONG, W. *The Spa Treatment of Neuritis.*
4. BUNCH, J. L. *Leucoderma and Premature Canities.*
5. PARKINSON, J. P., AND DREW, D. *Purulent Pericarditis.*
6. GUTHRIE, L. *Chronic Jaundice and Splenomegaly.*
7. SUTHERLAND, G. A. (a) *Bilateral Deltoid Paralysis. (b) Cerebral Palsy.*
8. \*NORBURY, L. E. C. *Subacute Arthritis of Shoulder-Joint.*
9. FITZWILLIAMS, D. C. L. *Congenital Deformities in the Lower Limb.*
10. HERTZ, A. F. *Congenital Dyschezia.*
11. GALLOWAY, J. *Progressive Muscular Dystrophy.*
12. \*FRENCH, H. (a) *Paralysis of Right Vocal Cord. (b) Two Separate Large Thoracic Aneurysms.*
13. CARLESS, A. *Sarcoma of the Ilium Treated by Coley's Fluid.*
14. BATTLE, W. H. *Mikulicz's Disease.*
15. TROTTER, W. *Rupture of Extensor Tendon of Terminal Phalanx of Finger.*
16. WAGGETT, E. B., AND DAVIS, E. D. *Hyperostosis Cranii.*
17. GOSSAGE, A. M. *A Family with Membranous Discharge from the Nose.*
18. \*TROTTER, W. *Note on a Case of Ruptured Intestine.*
19. EINTHOVEN, W., et al. *Observations of the Movements of the Heart by Means of Electrocardiograms.*

20. DAVIS, H. *Raynaud's Disease, associated with Calcareous Degeneration.*
21. BUNCH, J. L. *Congenital Xanthoma.*
22. FEARNSIDES, E. G. *Abnormal Condition of the Nails of the Hands Associated with Secondary Carcinomatosis.*
23. FOX, T. C. *Hebra's Prurigo.*
24. MORRIS, M. *Dermatitis Herpetiformis.*
25. PERUET, G. *Xantho-Erythrodermia Persians.*
26. SEQUEIRA, J. H. *Lichen Planus Annularis.*
27. FEARNSIDES, E. G., AND SEQUEIRA, J. H. *Double Cervical Ribs, Associated with Vascular Phenomena Suggesting Raynaud's Disease.*
28. WHITFIELD, A. *Sections of the Skin of a Kitten Affected with Microsporon Ringworm.*
29. BORDIER, H. *The Radiotherapeutic Treatment of Uterine Fibroma.*
30. \*THOMSON, T. *Presentation of the Jenner Medal.*
31. ARNOLD, M. B. *The Relation of Housing to the Isolation of Scarlet-Fever and to Return Cases.*
32. THOMSON, ST. C. (a) *Larynx Showing Epithelioma.* (b) *Combined Tuberculosis and Syphilis of the Larynx.* (c) *Double Abductor Paralysis.*
33. \*DAVIS, H. J. *Report of Eight Laryngologic Cases.*
34. TILLEY, H. *Tracheotomy for Fixation of Cords by Inflammation of Crico-Arytenoid Joints.*
35. HORNE, W. J. *Extensive and Rapid Destruction of the Soft Palate by Specific Disease.*
36. KELSON, W. H. *Growth from the Trachea.*
37. WYLIE, A. (a) *Cystic Condition of Left Arytenoid in a Tuberculous Subject.* (b) *Syphilitic Ulceration at the Base of the Tongue.*
38. WILKINSON, G. (a) *Severe Epistaxis Associated with Multiple Hereditary Telangiectases.* (b) *Papilloma Removed from the Posterior End of the Right Inferior Turbinal.* (c) *Molar Tooth Removed from Right Bronchus.* (d) *Melano-Sarcoma of the Nose.*
39. BRUCE, W. I. *X-Ray Photographs Illustrating Diseases of the Accessory Sinuses.*
40. EVANS, A. *Paralysis of the Right Vocal Cord.*
41. BADGEROW, G. W. *Vincent's Angina.*
42. HOPE, C. W. M. *Herpes of the Palate.*
43. MUECKE, F. F. (a) *Gumma of the Thyroid Cartilage.* (b) *Dental Cysts Inside the Nose.* (c) *Tumor of the Larynx.*
44. DOWNIE, W. *Epithelioma of the Larynx.*
45. GRANT, J. D. *Tuberculous Ulcer of the Larynx.*
46. HOWARTH, W. (a) *Intrinsic Carcinoma of Larynx.* (b) *Tuberculous Ulceration of the Pharynx and Larynx.* (c) *Cystic Swelling of the Nose.*
47. BRUNTON, L., AND WILLIAMS, W. E. *Angina Abdominis.*
48. \*HERTZ, A. F. *Functional Hour-Glass Stomach.*
49. BUZZARD, E. F. *Myasthenia Gravis.*
50. PRENTICE, H. R. *Case of Athetosis.*
51. TURNER, H. G. (a) *General Athetosis in Two Sisters.* (b) *Friedreich's Disease.*
52. TAYLOR, J. (a) *Case of Syringomyelia.* (b) *Progressive Muscular Atrophy.*
53. FEARNSIDES, E. G. *Familial Lateral Sclerosis with Amyotrophy.*
54. CROSS, H. *Long-Standing Clonic Tic.*
55. BATTEN, F. E. (a) *Astereognosis, Probably Due to a Lesion of the Posterior Columns in the Cervical Region.* (b) *Unilateral Ataxia.*
56. HALL, D. *Paralysis of the Left Third Cranial Nerve Associated with Left-Sided Headache.*
57. DARLING, H. C. R. *Adolescent General Paralysis.*
58. TOOTH, H. H. *Case of Diagnosis.*
59. CAMPBELL, H. *Facial Spasm Treated by Injection.*
60. MILLER, H. C. *Persistent Hiccough.*
61. SAUNDERS, P. W. *A Case of Syringomyelia.*
62. LEDIARD, H. A. (a) *Sacral Teratoma Removed from an Infant Two Days Old.* (b) *Large Warty Fibroma of Labium.*
63. BRIGGS, H. (a) *Fibroid of the Uterus.* (b) *Large Placenta in Case of Ectopic Gestation Three Months Beyond Term.*
64. WHITE, C. *Fetus with Congenital Hereditary Graves' Disease.*
65. ROBERTS, C. H. (a) *Calcareous Degeneration of Placenta.* (b) *Sections of Ovarian Concretions.*
66. LEDIARD, H. A. *Suppurating Extraperitoneal Dermoid Cyst.*
67. BRIGGS, H. *Cæsarean Section for Dystocia Due to Coils of Cord around the Fetus.*
68. FOTHERGILL, W. E. *A Plea for the Use of a Pathologic Classification of the Diseases of Women.*
69. DOWSITT, E. B. *General Exostosis of All the Maxillary Teeth.*
70. DYKES, T. C. *Variation in Number, Size and Position of Teeth, Incisors and Canines.*
71. GABELL, D. P. *The Position of Swivels on Spring Dentures.*
72. BARR, T., AND SCOTT, S. *The Value and Significance of Hearing Tests.*
73. CROWE, H. W. *The Incidence of Streptococci in Urine.*
74. \*ROSS, H. C. *Division Figures in Lymphocytes.*
75. DEAN, H. R. *Ulcerative Endocarditis Produced by the Pneumococcus in a Child.*
76. \*BARKER, A. E., et al. *Partial Thyroidectomy Under Local Anesthesia.*
77. MURRAY, J. *Pancreatic Calculus.*
78. MAKINS, G. H., WALLACE, C., AND SARGENT, P. *Multiple Tumors of the Large Intestine.*
79. \*SPENCER, W. G. *Hydrocephalus Internus.*
80. MAKINS, G. H. *Multiple Fibromata of the Tunica Vaginalis.*
81. BRUNTON, L. *Ludwig's and Other Theories of the Secretion of Urine and the Action of Diuretics.*
82. SHAW-MACKENZIE, J. A. *Certain Reactions of the Blood in Carcinoma and Other Conditions, with Suggestions on Treatment.*

1. Rood describes the technic of the induction of general surgical anesthesia by intravenous infusion of ether. He believes this method has definite indications.

2. Page reports a series of 75 cases in which anesthesia was induced by the intravenous infusion of hedonal. Of these patients, 5 died, none of them from results attributable to the anesthesia. He summarizes his article as follows:

(1) The intravenous infusion of a .75% solution of hedonal in normal saline produces general anesthesia.

(2) Administration of the solution by continuous infusion gives good results.

(3) The anesthesia is steady and complete, is associated with great relaxation of the muscles, and has a wide margin of safety.

(4) During anesthesia the respiration remains steady; the pulse remains good; the blood-pressure usually falls slightly.

(5) The induction of anesthesia is subjectively very pleasant to the patient. Little if any excitement occurs during this stage.

(6) Anesthesia is established in from five to ten minutes. The rate of inflow of the fluid should be from 50 to 100 ccm. to the minute; a slower rate greatly delays the induction of anesthesia; a more rapid one may produce signs of cyanosis.

(7) The comparatively slow rate at which the drug is excreted makes it possible to maintain anesthesia for prolonged periods without infusing a very large volume of fluid.

(8) The anesthetic stage usually merges into one of deep sleep, which lasts from six to twelve hours.

(9) Vomiting or headache in the post-operative period are uncommon.

(10) Pulmonary complications are rare.

(11) The dangers which may arise during anesthesia are: respiratory depression from an overdose of the drug, and respiratory obstruction from falling back of the tongue and jaw.

(12) The method is very suitable for operations about the head and neck. The muscular relaxation and quietness make it a valuable anesthetic for operations in the upper part of the abdomen.

8. Norbury reports a case of subacute arthritis of the shoulder-joint due to an organism of the bacillus enteritidis type.

12. French reports a case of paralysis of the right vocal cord, obstruction of the superior vena cava, and partial obliteration of the right radial pulse, from mediastinal fibrosis, probably syphilitic.

18. Trotter reports a case of ruptured intestine, with especial reference to the mode of production of the lesion, which was caused by a crush between the buffers of two ballast wagons.

30. Thomson records the presentation of the Jenner Memorial Medal to Sir Patrick Manson, the third recipient of the distinction, his predecessors having been Sir William Power and Prof. A. Laveran.

33. Davis reports a case of double abductor paralysis; a case of foreign body retained in the nose for fourteen years, a grain of Indian corn which germinated after removal; a case of foreign body, a pearl collar-stud, impacted in the glottis of a child; a case of traumatic injury to the larynx; a case of functional aphonia in a child; a case of double acute frontal sinusitis following influenza; a case of acute sphenoidal and maxillary sinusitis and a case of extensive lupus involving both cheeks, the palate, epiglottis, larynx and both nasal cavities.

48. Hertz discusses spasmodic, orthostatic, adhesive and pseudo hour-glass stomach with eleven excellent illustrative diagrams.

74. Ross presents a comparison between the division figures induced in lymphocytes by auxetics with the jelly method and the mitotic figures seen in these and other cells in sections of tissues by the older methods.

76. This article is a valuable discussion of partial thyroidectomy with special reference to exophthalmic goitre.

79. Spencer reports a case of internal hydrocephalus in which there was spontaneous rupture into the subdural space, and subsequent operation for temporary relief of intracranial tension. [R. M. G.]

### Obituary.

#### JULIUS THEODOR RICHARD FROMMEL, M.D.

DR. JULIUS THEODOR RICHARD FROMMEL, who died of appendicitis on April 6 at Munich, in Bavaria, was born in Augsburg on July 16, 1854. After receiving his preliminary education at the famous old gymnasium of St. Anna in his native city, he studied medicine at the universities of Munich, Göttingen and Würzburg. He received his medical degree from the latter institution in 1877, and in the following year became a practicing physician. He continued his medical studies at Vienna and Berlin, devoting himself especially to obstetrics and gynecology.

In 1879 Frommel became assistant to Schroeder at the gynecologic university clinic in Berlin, where for three years he discharged his duties with devotion and zeal. During this time he began his numerous contributions to medical literature, of which the most important at this period was his physiologic study on the "Movements of the Uterus." In 1883 he established a private hospital for women's diseases, which he maintained for several years.

In 1887 Frommel was called to the University of Erlangen as professor of obstetrics, to succeed Zweifel, who had gone to Leipzig. In his new clinic he developed to its height his great ability as a teacher and administrator. Here, too, he conducted valuable clinical and laboratory research, which bore fruit in his articles on "The Histology of the Oviducts," "The Histology and Physiology of the Mammary Glands," "The Treatment of Puerperal Septicemia," "The Treatment of Internal Diseases" and "The Etiology, Symptomatology, Diagnosis and Radical Treatment of Carcinoma of the Uterus." In

1901 he retired from his professorship and settled in private practice at Munich, where he continued until his death. He was a member of the Obstetric Society of Leipzig and an honorary member of the Gynecologic Society of Munich.

Dr. Frommel was a man of deliberate, inflexible will, but sunny and cheerful in disposition. He was an inspired and inspiring teacher, a brilliant speaker, a firm and loyal friend. He met his death quietly and heroically, with a clear realization of its approach, and has left in Germany not only a distinguished reputation as a teacher and investigator, but a treasured memory as a physician and a gentleman.

### Miscellany.

#### HARVARD MEDICAL CLASS DAY.

THE Harvard Medical Class Day, which we announced editorially in last week's issue of the JOURNAL, was held on May 25. The weather was excellent, and the occasion was largely attended and highly successful. At the formal exercises, President Lowell spoke particularly of the increasing prominence taken by medicine in the life and civilization of our time, and of the high prospects and opportunities of service now offering in the fields of public and of preventive medicine. Dean Bradford, commenting on the environment of the school, spoke of the human associations which its buildings needed yet to acquire to make them complete. "Truth," he said, "the motto which stands upon our seal, means more than mere fact; it means law and right, which it is the duty of the profession to study and to teach. But to do this well, we need more than knowledge. Truth is a key that will open any lock, but some experience is required to enable one to find the keyhole." Mr. Hackett, in lighter vein, humorously sketched the life of a medical student, which he classed among the dangerous occupations; but showed by his conclusion that he appreciated its serious and noble aspects. The occasion was one of great enjoyment and profit. It should be now established as a settled academic function of annual recurrence.

### Correspondence.

#### DR. OSLER ON GUI PATIN.

MAY 19, 1912.

Mr. Editor: I inclose a copy of a portion of Dr. Osler's note to the *Canadian Medical Association Journal*, which I hope you may find space to accommodate in the coming number of the JOURNAL, as a complement to my paper on Gui Patin in the issue of the JOURNAL for May 16.

Truly yours,

ALBERT N. BLODGETT, M.D.

"MEN AND BOOKS."

"By Sir William Osler.

"GUI PATIN. One physician we know thoroughly, and one alone — Gui Patin, dean of the Faculty of Medicine, Paris. His ways and works, his inmost thoughts, his children, his wife, his mother-in-law (!), his friends, his

<sup>1</sup> From the *Canadian Medical Association Journal*, vol. ii, no. 5, May, 1912, p. 431.

enemies,—the latter *very well*,—his books and pictures, his likes and dislikes, joys and sorrows, all the details of a long and busy life, are disclosed in a series of unique letters written to his intimates between 1630 and 1672.

"Editions of the famous letters are common, from that of Frankfort in 1683, to the three volumes of Réveillé-Parise, 1846,—fourteen in all, and all imperfect, many garbled, a unique and priceless contribution, general and medical, to the history of the seventeenth century, 'forming,' as Traire says, 'a veritable diary improvised day by day, a mordant chronicle of the times by one of the most brilliant, the most alert, the most spiritual and the most satyric of the period.'"

"The edition of Réveillé-Parise, the only one of the nineteenth century, while a great improvement upon and much fuller than any other, had many errors, and perhaps deserved the severe handling given to it by Sainte-Beuve. MM. de Montaigon and Tamisy de la Roque had collected material, collated the letters, and had one volume ready, when in 1895, a fire destroyed every page of their manuscripts. Not a whit discouraged by the ill success of his predecessors, Dr. Paul Traire, of Tours, already well-known for his biographical writings, undertook the task, and in 1907 issued one splendid volume containing the letters from 1630 to 1648. As illness overtook him, the work could not be completed, and the death of the accomplished editor has just been announced. It is a sad loss, a calamity in the world of letters.

"But the chief object of this note is to make an appeal, to express a hope, that the Paris Faculty will at once arrange for the completion of M. Traire's edition. Much of the work has been done, and it should not be difficult to find somebody with the necessary qualifications. They owe it to the memory of one of the greatest of their deans. When completed, an English edition should be forthcoming. From one of the old editions a translation has already been made by Dr. Blodgett, of Boston, who at my request has withheld it from the press awaiting the completion of Traire's work."

## RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, MAY 18, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	16	2
Chicago.....	646	180	Waltham.....	6	0
Philadelphia.....	—	—	Brookline.....	9	0
St. Louis.....	—	—	Chicopee.....	11	0
Baltimore.....	—	—	Gloucester.....	11	0
Cleveland.....	—	—	Medford.....	6	0
Buffalo.....	—	—	North Adams.....	3	1
Pittsburg.....	—	—	Northampton.....	3	1
Cincinnati.....	—	—	Beverly.....	5	1
Milwaukee.....	—	—	Revere.....	4	1
Washington.....	—	—	Leominster.....	3	1
Providence.....	—	—	Attleboro.....	4	0
Boston.....	216	56	Westfield.....	5	—
Worcester.....	38	14	Peabody.....	—	—
Fall River.....	36	15	Melrose.....	4	—
Lowell.....	37	17	Woburn.....	2	0
Cambridge.....	23	4	Newburyport.....	3	1
New Bedford.....	34	16	Gardner.....	1	—
Lynn.....	37	8	Marlboro.....	—	—
Springfield.....	40	8	Clinton.....	3	1
Lawrence.....	—	—	Millis.....	—	—
Somerville.....	26	4	Adams.....	2	0
Holyoke.....	11	7	Framingham.....	2	1
Brockton.....	12	1	Weymouth.....	—	—
Malden.....	12	2	Watertown.....	3	0
Haverhill.....	13	2	Southbridge.....	3	—
Salem.....	18	2	Plymouth.....	—	—
Newton.....	7	—	Webster.....	1	0
Fitchburg.....	8	3	Methuen.....	—	—
Taunton.....	13	3	Wakefield.....	2	—
Everett.....	7	1	Arlington.....	2	1
Quincy.....	—	—	Greenfield.....	2	—
Chelsea.....	15	4	Winthrop.....	0	—

## RECENT DEATHS.

DR. JAMES T. BURDICK, of Brooklyn, N. Y., died on May 19, at the age of eighty years. He was born in Washington, D. C., and was graduated in medicine at Worcester in 1863. During the Civil War he served as a surgeon in the 147th Regiment, New York Volunteers, but, altogether, he had practiced in Brooklyn for nearly fifty years.

DR. JOHN WRIGHT OSTRANDER, a retired physician of Brooklyn, N. Y., died from cardiac disease on May 22, in the sixty-ninth year of his age. He was born in Brooklyn, being the son of the late Dr. Ferdinand W. Ostrander, and was a graduate of the College of Physicians and Surgeons, New York.

DR. FRANCIS COLIVIA, of New York, was fatally shot on May 23, while on his way to visit a patient on an emergency call. The motive for the crime is not known.

DR. ABRAHAM FEINGOLD, a house surgeon at St. Mark's Hospital, New York, died at that institution on May 30 of meningitis, following several weeks of illness with typhoid fever.

DR. SIR FREDERICK WALLACE, an eminent surgeon of London, died in that city recently at the age of fifty-three.

## SOCIETY NOTICE.

THE AMERICAN SOCIETY FOR THE STUDY OF ALCOHOL AND OTHER NARCOTICS will hold its forty-second annual meeting in the parlors of the Marlborough-Blenheim, Atlantic City, June 5, 1912, at 10 A.M. This is the oldest medical society in the world for the scientific study of alcohol and the degenerations which follow from it. A warm invitation is extended to all persons interested in this subject to be present on this occasion. For particulars address

DR. T. D. CROTHERS, *Secretary*.

HARTFORD, CONN.

## BOOKS AND PAMPHLETS RECEIVED.

The Surgical Treatment of Very Severe and Late Cases of Amebic Dysentery. By A. B. Herrick, M.D. Reprint.

Abscess of the Liver. By A. B. Herrick, M.D. Reprint.

Pellagra in the Canal Zone. By W. E. Deeks, M.A., M.D. Reprint.

The Value of Trophic Bone Changes in the Diagnosis of Leprosy. By A. B. Herrick, M.D., and T. W. Earhart, M.D., Ancon Hospital, Canal Zone. Reprint.

The Practical Value of the Ross "Thick Film" Method in the Diagnosis of Malaria. By W. M. James, M.D. Reprint.

A Preliminary Report on a Method for Preventing the Development of Pernicious Malaria. By W. M. James, M.D. Reprint.

Memoranda Concerning Vaccination in the Prophylaxis of Typhoid Fever. By William S. Magill, A.M., M.D. Reprint.

Elevation of Temperature. By Heinrich Stern, M.D. Reprint.

Friends of the Insane and Other Essays. By Bayard Holmes M.D. Chicago: The Lancet-Clinic Publishing Co. 1911.

Hygienic Laboratory Bulletin No. 79. Digest of Comments on the Pharmacopoeia of the United States of America and on the National Formulary.

Thirteenth Census of the United States: 1910. Manufacturers. Missouri.

Annual Report of the Bureau of Health for the Philippine Islands for the fiscal year ended June 30, 1911.

The Cure of Infantile Beriberi by the Administration to the Infant of an Extract of Rice Polishing, and the Bearing Thereof on the Etiology of Beriberi. By Major Weston P. Chamberlain and Capt. Edward B. Velder. Reprint.

Nouveaux dérivés sulfurés permettant d'administrer les arsénos sous forme soluble, par voie intramusculaire ou sous-cutanée. Par le Dr. A. Mouneyrat. Paris.

Arsenic et Syphilis par le Dr. A. Mouneyrat. Extrait du "Journal de Médecine Interne." Paris.

Annali dell' Istituto Maragliano per lo Studio e la Cura della Tuberculosis e di Altre Malattie Infettive. Genova, 1911. Indice.

Annali dell' Istituto Maragliano. Genova. Vol. VI. Fasc. 1. Report of the Commissioner of Education for the Year ended June 30, 1911. Washington, D. C.

The Care of the Skin and Hair. By William Allen Pusey D. Appleton & Co. 1912.

Thérapeutique Usuelle du Practicien. Par Albert Robin. 1912.

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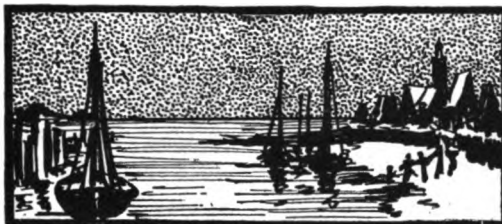
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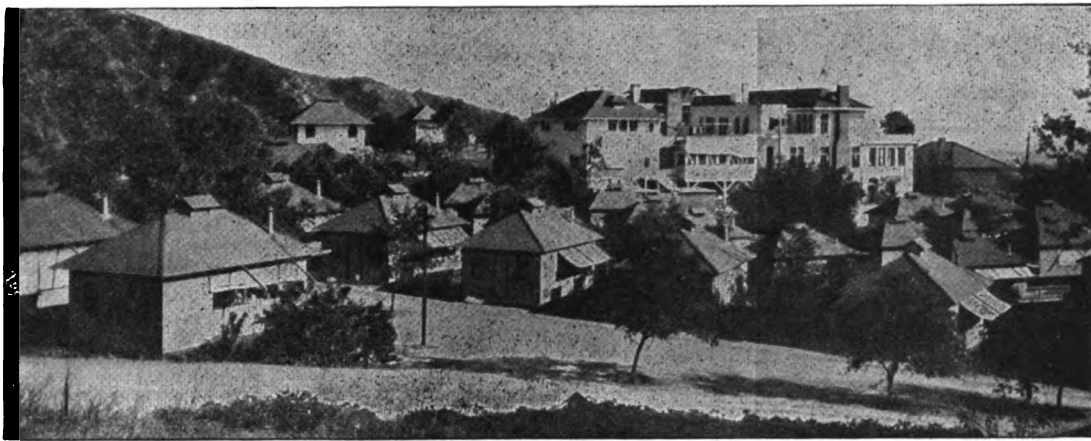
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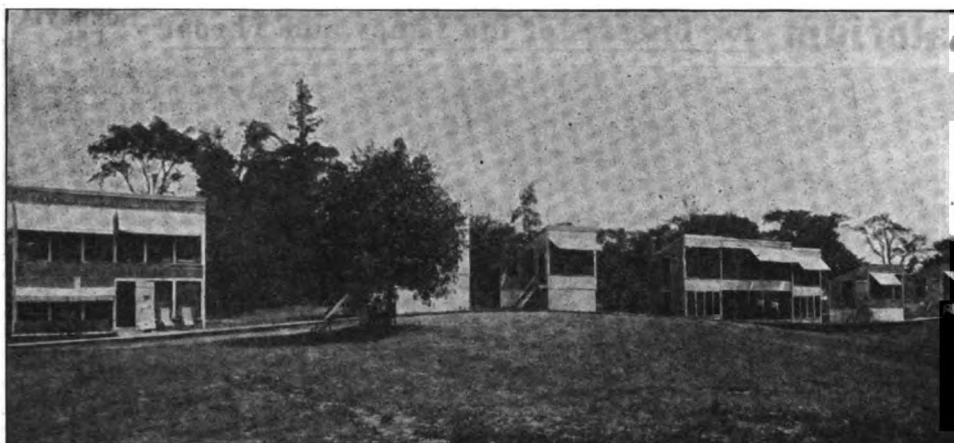
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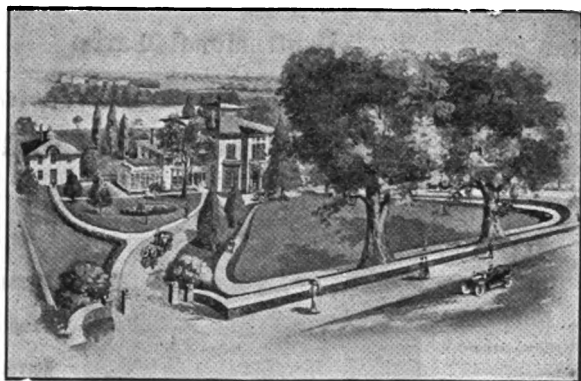
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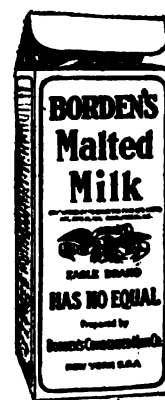
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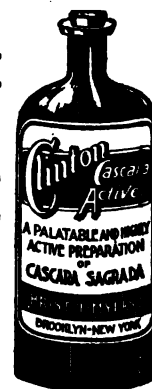
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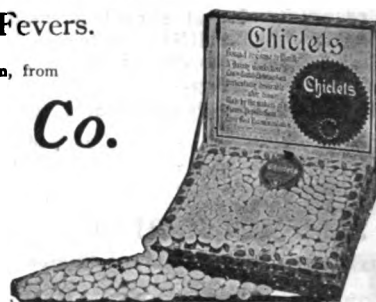
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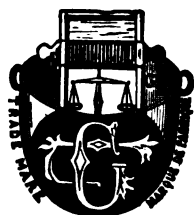
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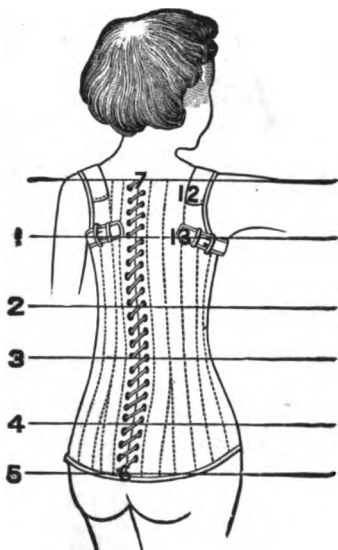
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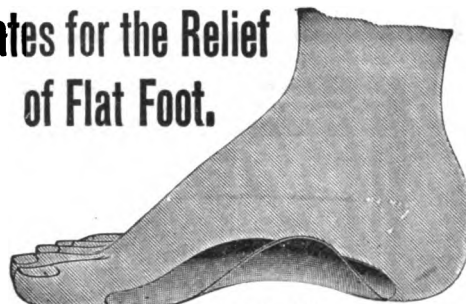
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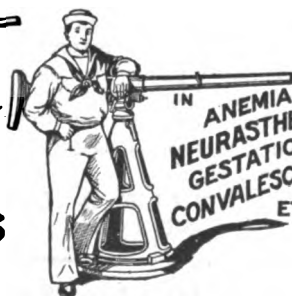
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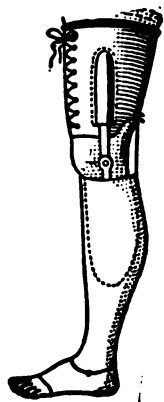
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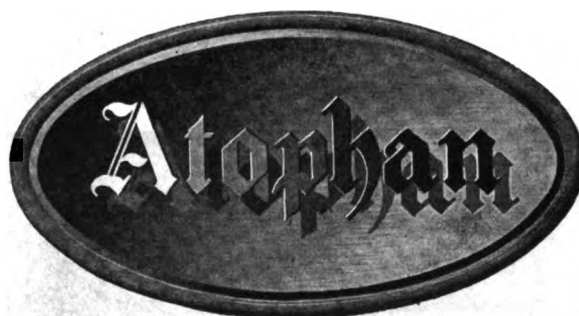
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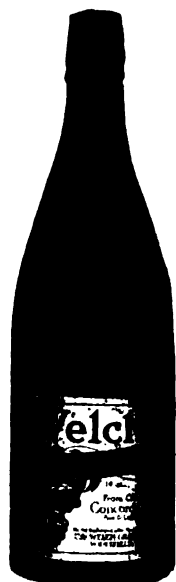
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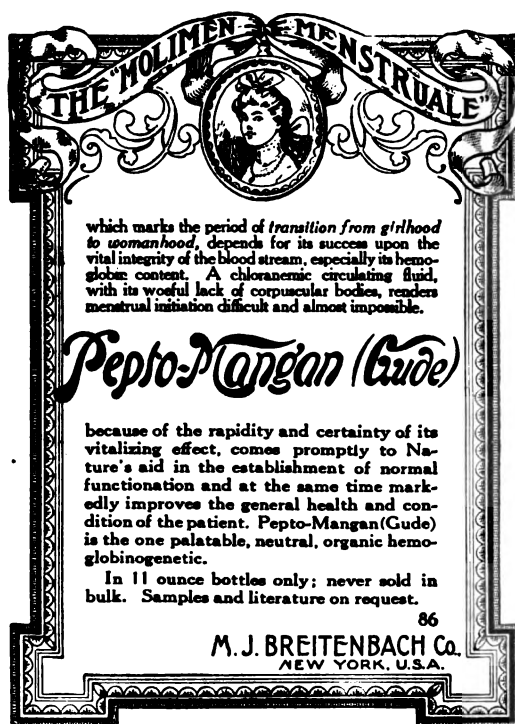
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Forty years ago this spring a leading member of the faculty of the Harvard Medical School in an address on medical education asserted that there was grave danger of devoting too much time to science in the medical course. He was fearful that as a result the schools would turn out scientists instead of practical doctors. Not only was there open hostility to science, but a hearty endorsement of the plain rule of thumb practice in medicine and surgery. "The student's work," he said, "is mainly with facts of empirical association."

With the passage of time and the growth of applied science views have changed and recently a professor in the same institution in an address on the same subject said, "So far as I know, the most important difference between a 'practical' doctor and the truly scientific is that the patients of the former are more likely to die."

Nevertheless, there are many to-day in the medical profession, we must all admit, who make a sharp distinction between what they call the scientific and the practical branches of medicine and who believe that a medical school can give too scientific a training. There are doubtless some teachers still living who would endorse the sentiment of Trousseau, the distinguished French physician, who said in his clinical lectures, "For mercy's sake, gentlemen, let us have a little less science and a little more art." At the present time men of influence in the educational world, if they hold such views, rarely assert them in the medical press.

The opposition to scientific clinical medicine can be traced back to the vitalists, whose false teachings dominated medicine in the eighteenth century, and prevailed in Germany during the first half of the nineteenth. The views of the vitalists were charged with the spirit of the Middle Ages. They were philosophers, divided into schools who held tenaciously to certain dogma. Authority was their guide. The study of medicine was the study of books. The vitalists believed that disease was due to some disturbance of the "vital force." They rejected all mechanical or materialistic explanations of disease, and they were opposed to the use of physical methods of examination. Helmholtz states that within his memory vitalistic views prevailed to such an extent that many physicians in Germany objected to the use of auscultation and percussion because such gross methods of examination implied that man was a machine rather than a living spirit. It was claimed that feeling the pulse was sufficient because it gave a truer knowledge of the condition of the vital force. It was customary even then to determine the exact pulse-rate by the aid of the second-hand of a watch, but some objected to

this refinement of method. Measurements of the temperature were not made. A physiologist well known for his literary scholarship disputed with a physicist in regard to the picture of the fundus of the eye. The physicist offered to prove by experiment the correctness of his views, but he was met with the reply that physiology was not an experimental science.

That was the state of medical thought in Germany when a great man appeared, Johannes Müller, to whom science owes a great debt. Although his early theoretical conceptions of physiology and pathology were those of the vitalists, he used the method of science in all his work. The views he held, the correctness of which had not been demonstrated, were regarded by him as hypotheses, and when proved to be wrong by observation and experiment they were rejected. To show that his method of work was the right one and that he instilled into those he taught the scientific spirit and the power to make the greatest use of their abilities, one has only to name some of his students. Among those who received early in life the scientific impress from Johannes Müller were Virchow, the founder of cellular pathology; Helmholtz, the physiologist and physicist, regarded by many the greatest intellect of the nineteenth century; Schwann, the discoverer of the cellular nature of organisms and organs; Traube, the physiological clinician; Ludwig, the great physiologist, who in his turn possessed in rare degree the ability of inspiring in his students an enthusiasm for scientific work.

In 1871, Dr. Henry P. Bowditch, trained in Ludwig's laboratory, returned to Boston and founded there the first physiological laboratory in America. It is easy to trace the origin of the scientific spirit that led Dr. Bowditch to establish this laboratory at his own expense and to devote the remainder of his life to science, back through Ludwig to Johannes Müller. Of Dr. Bowditch it has been said, "He stood for the highest ideals of progress and maintained always that the old-fashioned 'practical' physicians must be replaced by men scientifically trained and animated by the scientific spirit."

It is well to ask ourselves what we mean by science and the scientific method. Much of the opposition in the past has been due to ignorance of the true nature of science. Many of those who confuse science with theory would be surprised to know that as great an authority as Huxley defined science as "trained and organized common sense," and "scrupulous exactness" as the chief characteristic of the method of science. Inasmuch as emphasis should be placed on the method of work, science may be defined as knowledge acquired by the exact and thorough observation of facts.

The modern science of clinical medicine had its origin not in Germany, but in France. The great Bichat had shown that anatomy and physiology were the foundations upon which scientific medicine must rest. Corvisart strove to make clinical diagnosis more exact and more objective. He introduced the use of percussion into France

\* Annual address before the Medical Alumni of Syracuse University, Syracuse, June 12, 1911.

and called the attention of the world to Auenbrugger's discovery which it had so long neglected. Laennec, a pupil of Corvisart, invented the stethoscope in 1816, and three years later his epoch-making work on auscultation appeared. These new methods of examination were utilized by a group of physicians who were imbued with the scientific spirit. Next to that of Laennec comes the name of Louis, who as clinical investigator and teacher exerted a great influence on the development of scientific medicine.

Oliver Wendell Holmes, one of his students, says, "Louis taught us who followed him the love of truth, the habit of passionless listening to the teachings of nature, the most careful and searching methods of observation, and the sure means of getting at results to be obtained from them in constant employment of accurate tabulation." Even to-day, nearly one hundred years after Louis began his work, many physicians do not realize the difficulty and importance of making good observations in clinical pathology and therapeutics, and of the caution which is necessary in drawing deductions from the facts observed. Louis was the first physician who followed consistently in his practice the scientific method. He constantly refers to medicine as a science. Speaking of one of his favorite students he says, "No one is more capable than he of cultivating science and consequently of promoting the progress of practice. For what is practice but science brought into daily use."

At the age of thirty-three, Louis was so dissatisfied with the state of medicine that he abandoned private practice and decided to devote himself to observation. He went to the Hospital La Charité in Paris and spent six years studying disease in the wards of his friend Chomel. During this period he had no other occupation. His method of case taking was essentially the same as that followed to-day in the best hospitals of the world. He made a thorough and systematic examination and noted not only the presence but the absence of symptoms or signs which might bear on the diagnosis. He performed autopsies with scrupulous care and examined all the organs. "His notes did not state opinions, but facts. He recorded in regard to each part, which was not quite healthy, its appearance, the change in color, consistence, firmness and thickness, etc., not contenting himself with saying that a part was inflamed, or was cancerous, or with the use of any general, but indefinite terms." (James Jackson.) Louis investigated the difficult subject of therapeutics by means of the same method of exact observation. His researches<sup>1</sup> on the effects of blood letting were revolutionary. At the time of their publication nothing in therapeutics seemed more settled than the value of blood letting in acute infectious diseases, especially pneumonia. This remarkable work deserves not only to be re-read, but to be republished. It could well serve as a model at the present time for those

who wish to conduct a rigorous, impersonal investigation of a therapeutic agent. In the first chapter he admits that the results obtained will be far from satisfactory, "but of what consequence is that," he adds, "if they are true; since whatever has this character cannot fail in the end to be of real utility."

He had no patience with men who made vague indefinite statements. Vieusseux, speaking of epilepsy, says, "I have almost always used leeches at intervals and with success." Listen to Louis's criticism of this. "If you are sure that you have treated epilepsy more successfully with leeches than without them it must be because, other things being equal, you have cured a greater number of epileptics with them than without them. If so, you must have counted the cases, and why do you not state the number? It would not have made your book much more voluminous, and we should have demonstration in place of mere assertion."

Louis began his observations in October, 1821. The wards of Chomel contained forty-eight beds, equally distributed between men and women. He regularly passed from three to five hours in the hospital and devoted at least two hours to each post-mortem examination. In the preface of his work on phthisis he states that throughout his investigations he had been fully persuaded that to observe well we must not observe hastily. Cowan tells us that for some time Louis' minute and laborious inquiries and the extreme accuracy of description were the subject of ridicule and contempt and "*cui bono*" was asked frequently.

In the following letter of James Jackson, Jr. to his father we get a glimpse of Louis' method of clinical teaching:

PARIS, Nov. 23, 1831.

I am still following at La Pitié. I have made two or three efforts to follow Chomel at Hôtel Dieu, — but it is impossible to do so with advantage. One may hear the clinic, to be sure, and a very good one, too, but he cannot see the patients. This, especially in my present situation, is the most important by far. My great object is to accustom my ear to stethoscopic sounds; in order to do this I must see the patients. The visit at Hôtel Dieu is commenced an hour and a half before clear daylight, — by candlelight, indeed, — there are from two to three hundred pupils in the wards at the same time, and one is fortunate if he sees four patients, and examines one in the course of the visit. Whereas the visit is made at La Pitié by daylight, there are not more than fifteen students, and I call it a black day in which I have not examined as many as six patients at least, who present stethoscopic phenomena, — ordinarily I examine as many as ten. Besides, I have told you before, Louis gives a little clinic at each bed. You see that I do right in giving preference to La Pitié.

Louis also gave clinical lectures at La Pitié, although he, in his modest way, simply termed them conferences. He was not a good lecturer. The eloquence of Andral and the charms of Chomel were lacking. "He was dry," the students said, and the consequence was that few followed him. Although ill at ease while in the teacher's chair,

<sup>1</sup> Researches on the effects of blood letting in some inflammatory diseases and on the influence of tartarized antimony and vesication in pneumonia. By P. Ch. A. Louis. Translated by C. G. Putnam, Boston, 1836.

Louis "would talk fluently by the bedside of a patient and give out the brilliant results of his years of patient labor in Chomel's wards." (Henry I. Bowditch.)

The spirit that animated Louis is expressed in the quotation from Rousseau which he placed on the title page of his "Researches in Typhoid Fever": "I know that the truth is in the facts, and not in my mind, which interprets them, and the less I introduce my own views into my interpretations, the more sure shall I be of approaching the truth."

Louis exerted a profound influence upon the development of medicine in this country. Elisha Bartlett, writing in 1844, said: "There is now a pretty large and constantly increasing class of young physicians, many of them friends and pupils of Louis, scattered through our principal cities, mostly at the North and East, thoroughly imbued with the spirit of their distinguished master, and diligently engaged in the study of positive pathology, diagnosis and therapeutics."

It was not long before the influence of Louis began to wane in Paris and his method of laborious and exact observation was followed by few clinicians. Students flocked to hear Trousseau, the brilliant clinician and teacher who prided himself that he was an artist and not a scientist. His wish to have "a little less science and a little more art" was granted so far as France was concerned. Science in clinical medicine, neglected at this period in France, began to develop rapidly beyond the Rhine, and Germany soon gained the supremacy which she has retained to this day.

There is need of emphasizing now the truth Louis taught,—that science can be advanced only by accurate observation. We have abundant evidence that much of the clinical work in this country, especially in therapeutics, has little or no scientific value. Sollman, in an address delivered in 1908 before the Association of American Physicians, said: "Again and again I have tried to explain apparent differences in the results from the laboratory and from the bedside by going back to the clinical reports as found in the journals, and was forced to give up the attempt because the clinical therapeutic experiments had been made so loosely that it was impossible to assign to them any scientific value whatsoever. This carelessness and want of critical faculty in reporting therapeutic observations was often rendered more conspicuous by contrast with the careful reports of the pathological features."

Before considering the present system of clinical training in this country, it is well to study the methods followed by the great masters of the past century. I have examined the published statements of leading English, Irish and French clinical teachers and I find a remarkable unanimity of opinion. They all assert with great positiveness that clinical medicine can only be studied at the bedside.

During the first half of the last century there were in Great Britain, France and Germany, three different modes of conducting clinical instruction. Of the British schools, the one in Edinburgh was

the most famous. The physician selected two clinical clerks for his wards from among the senior pupils. The clerks wrote accurate histories of the case and recorded the symptoms which occurred during the course of the disease. We have the testimony of Graves, of Dublin, who studied in Edinburgh in 1819, that this work was generally done with fidelity and zeal. The physician on his daily visit examined each patient and questioned him with a loud voice, while the clerk repeated the patient's answer so that the students might know the reply. It was also the custom of the physician to dictate notes to the clerks. The classes were very large, so that many of the students saw nothing. Each student carried a case-book in which he noted down the observations of the teacher. In addition to this ward work, clinical lectures were given.

The methods employed in France were quite similar, except that notes were not dictated and more time was spent in explaining to the students the symptoms and progress of each case while at the bedside of the patient.

In Germany the method of teaching was superior, because the students were given an opportunity to make personal observations. The advanced students were assigned the care of patients, while the beginners in clinical work merely looked on and listened during the ward visit. When a patient was admitted his case was assigned to one of the students, who acted as clinical clerk. At the bedside of the patient the student read his notes and was questioned by the physician. After all the patients had been examined, the professor and his class adjourned to the lecture room. The professor was provided with a list of the patients and the students assigned to them. The cases admitted that day were first taken up and each student was examined concerning the patients committed to his care. This method of instruction was introduced into the Meath Hospital in Dublin by the celebrated Robert Graves, a clinical observer of the first order, and one who brought great renown to the Irish school. After an experience of eleven years Graves strongly recommended this method of instruction. He tells us that it was ridiculed in every possible manner, although it is hard to see why it met with so much opposition. In one class there were only two pupils, but he was not discouraged. This was a class rich in talent, if not in numbers, for one of these two pupils was William Stokes, who later ranked with his master as one of the foremost physicians of the nineteenth century. Few will deny to-day that this method of teaching is the best that has been devised, for it gives the student experience in the diagnosis and treatment of disease, and a first-hand knowledge of clinical pathology. Furthermore, all his work is done under the supervision of the professor. Why has not this method come into general use? In Germany, the country in which this mode of clinical instruction originated, the students are now taught in amphitheatres by lectures and demonstrations, and in the medical clinics they are practically excluded from the wards.

Up to the middle of the last century the best arrangements for clinical teaching were those of Italy. The hospitals were very large, sometimes numbering one thousand beds or more. The medical clinics rarely contained over thirty beds, but the professor had the right of choosing any case he wished from the general receiving ward of the hospital.

In the American medical schools, with few exceptions, bedside instruction has been neglected. In some hospitals where once used it was later abandoned. Regular ward visits were given at the Massachusetts General Hospital by James Jackson and his successors for many years. Why this form of teaching was discontinued, I do not know. From the opening of the Johns Hopkins Medical School the daily visits in the wards of the hospital made by Dr. Osler and his assistants formed an important part of the clinical instruction. Dr. Osler taught in the wards. He gave his students personal instruction at the bedside throughout the year, and at a time when other leading clinical teachers in this country were contenting themselves with didactic and demonstrative clinics to their students at long range in the amphitheater.

Fortunate indeed were those of us who had the opportunity of getting "elbow instruction" from this master of medicine. I do not see how any student of Dr. Osler could have finished his hospital training without having impressed upon his mind the importance of exact and thorough observation, and a careful and systematic examination in the bedside study of disease. To walk the wards with Dr. Osler was to witness a demonstration of the method of science applied to practical medicine.

Students who make the daily rounds of the hospital with the attending physician have the opportunity of learning much that they could acquire in no other way, provided they see the same patients day after day from their entrance to the hospital until their discharge. The student loses much that is said at the lecture-hall, but nothing at the bedside; "the rhythms of disease are learned by frequent repetition; its unforeseen occurrences stamp themselves indelibly in the memory. Before the student is aware of what he has acquired, he has learned the aspects and course and probable issue of the disease he has seen with his teacher, and the proper mode of dealing with them, so far as his master knows it." (Holmes.)

If the physician in charge examines the patients with care and dictates notes, and directs the treatment, the value to the wide-awake student will be great even if he spends little or no time in demonstrating or talking. The keen ones in the class will take down the observation of the physician, and examine the patient when he passes on to the next bed. Friedrich Müller says that his old chief, Gerhardt, talked but little on the ward visit, but that gave him more time to examine ("wenig gesprochen und desto mehr untersucht").

Most interesting and most inspiring is the ward

visit of the physician who has, in addition to a good technical knowledge, the gift of teaching by the spoken word. That instruction is of the greatest value which arouses in the student a desire to know more about the subject discussed, so that he searches the library for information and returns to the study of his cases with increased knowledge and enthusiasm.

"I have always thought that hospitals are not converted to half the good they are calculated to serve as schools of medicine; and I think so still.

"I have always thought that, in hospitals, knowledge is perpetually running to waste for want of laborers to gather it, and I think so still.

"I have always thought that, in our schools, every mode of lecturing has been unduly exalted above clinical lecturing; and every place where knowledge is to be had, or is supposed to be had, has been unduly preferred to the bedside; and I continue to think thus."

These opinions so clearly and forcibly expressed have a wonderfully modern sound, yet they were not written in 1911, but in 1836, by that eminent English physician, Peter Mere Latham, whom Osler has termed a master in Israel. Latham did much to advance the study of auscultation in England, and his writings marked a new era in clinical training in that country. We are told that throughout his whole life he had most at heart the subject of medical education. He sums up the true method of clinical teaching in a few sentences which I shall quote. "But in this business of clinical instruction, I have not been the only instructor, nor have the means of information been limited to what I say or point out. Surely this would be a poor kind of schooling — a giving and taking of scraps of knowledge, where one mind receives just so much as another mind may have to bestow. No; it has been my chief care to put everything about the sick in the point of view most favorable for being well observed, that circumstances might become didactic, that they might give their own intimations, and speak to you themselves in their own tongues, and that thus you might accept knowledge neither from me nor from any one, but gather it fresh from the reality."

Although Latham was a brilliant teacher and stood in the first rank of London physicians, he was not a popular teacher. His hospital visits were made at an early hour, and very few of the students went around the wards with him; in fact, rarely more than ten, but these, according to Sir Thomas Watson, although "few," were "fit." They were the best men of their time, and among them were those who became the most distinguished of his successors.

If medicine is to be practiced as a science, it must be taught as a science, and science can only be taught by observation and experiment. The student's powers of observation must be developed and the training which begins in the biological and chemical laboratories during the college course must be continued throughout the four years of medical undergraduate study. The



student cannot be trained in the faculty of clinical observation unless he is brought into intimate contact with patients in the wards and in the dispensary. Demonstrative teaching will not suffice. A "do-it yourself" policy must be followed.

The hospital ward is the laboratory of the clinical student. It is just as essential that he should have the freedom of the wards as that the chemical student should have the freedom of the laboratory. Furthermore, it is as necessary that facilities for research should be as ample in one as in the other.

There are in America nearly one hundred and fifty medical schools, of which one hundred and twenty are so poor, as Mr. Flexner has clearly shown, that they should be wiped out of existence. The remaining thirty schools can supply more physicians than the next generation will need. Of the one hundred and fifty schools in the country, only thirteen have hospitals of their own.

A number of other schools, including Harvard, Columbia, the University of Indiana and the Washington University of St. Louis, have established close relations with private or municipal hospitals, and are in a position to call men from a distance for teaching positions. In the past nearly all clinical professorships have been filled with local men, because the schools without hospitals were at the mercy of independent hospitals and had to select as professors members of the existing staffs or go without any pretence of clinical facilities. There seems to be no good excuse for the schools of the better type in their failure to establish hospitals of their own. All three of the larger Philadelphia schools were able to do so—the University of Pennsylvania, Jefferson and the Medico-Chirurgical College. In addition to the Johns Hopkins, three of the other Baltimore schools have their own hospitals. The University of Michigan in 1869 began its hospital in a dwelling house. It has now grown to be an institution with 270 beds, and is to-day one of the best American hospitals.

If one compares the clinical facilities and the opportunities for clinical study and research of the best American universities and one of the smaller German universities, our inferiority is at once apparent. Take, for example, the University of Tübingen, situated in a small town in Württemberg. When I studied there in 1902 there was a medical hospital with about 125 beds under the direction of Krehl, a surgical hospital of equal size under Bruns, a large obstetrical and gynecological hospital with Döderlein in charge, an excellent psychiatric clinic with Wollenberg as director, a university hospital for eye cases controlled by Schleich, and a small ear clinic under Wagenhäuser. In addition, there was a medical polyclinic of which Jürgensen was the head. During the year a well-equipped laboratory for clinical research was added to the medical clinic. Here in this small German town were six separate hospitals, each of which had as a director a man of world-wide reputation as a writer and investigator, and each assisted by an excellent staff of

paid assistants, most of whom in addition to their routine clinical work were devoting much time to original investigations.

It seems improbable that alliances between a university and private or public hospitals will lead to the development of clinics equal to those of Germany. All is not settled when the power of nomination is placed in the hands of the university and the students are permitted to study in the wards. Unless the affiliation is close and unless the hospital trustees are as zealous as the university trustees to make their institution a teaching and research hospital, serious difficulties will arise.

The object that the trustees of a charitable institution have closest at heart is different from that of the university authorities, although both are actuated by right and proper motives. The trustees of a fund given for the sick poor of a city or state desire to give the greatest amount of care, other things being equal, to the greatest number of the needy sick. The duty of the university and its representatives is to educate its students in clinical medicine and to advance the knowledge of disease and its cure by investigations in the ward and in the clinical laboratory.

There is no question but that patients in a teaching hospital receive more careful and better treatment than those in hospitals not used for the instruction of students. "Who will be more certain to keep up with the progress of medical science," asks Dr. Keen; "he who works alone with no one to discover his ignorance; or he who is surrounded by a lot of bright young fellows who have read the latest *Lancet* or the newest *Annals of Surgery* and can trip him up if he is not abreast of the times." "I always feel at the Jefferson Hospital," he adds, "as if I were on the run with a pack of lively dogs at my heels. I cannot afford to have the youngsters familiar with operations, means of investigation, or newer methods of treatment of which I am ignorant. I must perforce study, read, catalogue and remember, or give place to others who will. Students are the best whip and spur I know."

Alice Hamilton, a social worker at Hull House, Chicago, says that in her experience the only dispensaries that give careful attention to the sick are those used for teaching purposes.

Will the boards of managers of the affiliated hospitals be willing to secure as large a staff of paid assistants as is found in the German clinics? This will be necessary if each paid assistant is able to devote half his time to research work, as is the case in the best university hospitals of Germany. If it were necessary to diminish expenses in an affiliated hospital for the coming year, would not the saving be made by diminishing the amount available for research rather than by economies in administration and maintenance? Yet the spirit of research is the very life of the university hospital as it is of the laboratory, and unless the affiliation of hospital and school is so close that there is union of purpose, it will be impossible to develop a university clinic of the first order.

Although the Johns Hopkins University and Hospital are governed by distinct boards of trustees, they have both worked in harmony for the mutual development of the hospital and the medical school. In pursuing this policy they were true to the trust reposed in them by the founder, who gave instructions that the hospital should furnish clinical facilities for the medical school. No one can doubt the wisdom of the hospital board in their action. If it had not been composed of men who had independence of mind and almost prophetic vision, Baltimore would have had a large hospital for the sick poor of the ordinary American type whose usefulness would have scarcely extended beyond the boundaries of the city. It would have been larger than the present institution, it would have treated more of the poor of the city, but any influence on the country at large would have been lacking. The high character of the work of its physicians and surgeons in their treatment of disease set a new standard for American medical men.

No one can tell how much suffering has been prevented and how many lives have been saved throughout America and its dependencies as a direct result of the broad-minded policy adopted by the trustees of the Johns Hopkins Hospital. They built a pathological laboratory so large and so well equipped for teaching and research that it must have seemed an unwarranted expenditure of hospital funds to many "practical men," lay and medical. If they had not furnished the facilities in this laboratory for instruction and research under the direction of Dr. Welch, does any one think that those three young men who were trained there in pathology, Reed, Carroll and Lazear, would have discovered the mode of infection in yellow fever and the means of stamping out that dread disease. If the trustees had built a vast hospital for the sick poor instead of a teaching hospital of the highest type, there is small chance that the United States would be building the Panama Canal to-day.

The sooner that university authorities realize that clinics under their own control are as necessary as laboratories, the better for American medicine. Certainly a large majority of the schools will be forced to erect and maintain their own clinics if they are to have them at all. True university clinics in medicine, surgery, gynecology, psychiatry, ophthalmology and otology can all be begun in a small way. If money is not available for new buildings, a number of dwelling houses might be secured. The latter method would have its advantages, for the lesson is not yet thoroughly learned in America that it is brains and not bricks that make a university.

If a school establishes a medical clinic, even one of twenty beds or less, under the direction of a man of modern training, it can accomplish a good deal both in *clinical instruction* and in *original investigation*. There must be ample funds for its maintenance, so that good paid assistants can be secured for teaching and research. The nurses must be of sufficient number and well trained so that the patients may receive every

attention that the best form of treatment demands. There should be no ill-directed economy in the purchase of instruments of precision for aid in the study of disease. A high standard in case-taking should be enforced, so that the records may serve as models to the students, for nothing is more helpful in developing the powers of observation than the careful objective description of what one sees, feels and hears in the examination of the sick.

A clinic of this small size must be able to select its cases from a large amount of available material if its work is to be entirely satisfactory. Many of the large private and municipal hospitals will not keep chronic cases in the wards, and this greatly impairs their value as teaching hospitals. In such a small university clinic as I have described a few cases of aortic aneurysm or of chronic cardiac insufficiency might be kept for weeks or months, during which time each member of the class could acquire a personal knowledge of these conditions. The patients affected with these diseases would get good medical care and nursing otherwise unattainable. Some rule should be adopted so that autopsies could be performed on all fatal cases unless special objection was made, instead of the present arrangement which allows no autopsies to be performed unless special permission is granted. The small percentage of fatal cases that come to autopsy in our teaching hospitals has been one of the retarding factors in the development of clinical medicine in this country.

Many universities which could maintain a small medical clinic of twenty or thirty beds take no steps to establish one because they are waiting for some benefactor to endow them with a large hospital. Several reasons may be cited in favor of beginning with a small hospital. It is easier to maintain a high standard of excellence in a small hospital than in a large one. The best clinical work in the past has been done in small hospital services. I have been told by Stokes' student and assistant, Sir John W. Moore, that Graves and Stokes had less than thirty beds in the old Meath Hospital in Dublin. Chomel had only forty-eight beds and yet his clinic in Paris was thronged with students. Auenbrugger had only four beds at his disposal and yet that was enough, for he discovered percussion and made modern diagnosis possible. Corrigan carried out his studies on aortic insufficiency in his clinic of less than a dozen beds.

The introduction of new methods of diagnosis and clinical investigation have so increased the work of the scientific physician that it is much more difficult and time-consuming to follow a large number of cases than it was when these men did their work. The Rockefeller Hospital for Medical Research has beds for only twenty-five patients under the care of six physicians. Yet this gives them an excess rather than a deficiency of material. When investigating the disturbances of absorption in pancreatic disease I found that I could not follow more than one case at a time, and the chemical work done in

connection with half a dozen cases occupied many months.

Of all the London clinics, which one is most eagerly sought by visiting American physicians to-day; is it Guy's Hospital, rich in tradition, or St. Bartholomew's with its 650 beds? No, it is the little ward of cardiac cases, containing only ten beds, at the Mt. Vernon Hospital, located somewhere in the suburbs, and quite unknown to the medical world until Dr. James Mackenzie was made its physician. Better work in clinical research has been done in no hospital in London during the past few years. Dr. Mackenzie has also six beds at the London Hospital. In a letter written in answer to my inquiry he says, "Few as these are, they are more than one can satisfactorily oversee, because each case requires such a minute and careful examination every day while under treatment."

In this country we have some examples of what can be done in the way of increasing facilities for teaching and research when only a small amount of money is available. (1) Among these is the Laboratory of Surgical Pathology at Yale, the creation of Professor Flint. He has converted a small dwelling house, purchased by the university for \$500, into a first-class laboratory fully equipped for work in pathological physiology and histology. (2) Professor Peterson's obstetrical clinic in Ann Arbor is simply a dwelling house, but so admirably is it arranged for patients that the applications for admission to the clinic have greatly increased. (3) The hospital of the Phipps Institute in Philadelphia, now connected with the University of Pennsylvania, was originally a lodge hall, but with a few alterations Dr. Flick converted it into a hospital. The splendid work that has been done there in the study and treatment of advanced pulmonary tuberculosis is well known. During the past year every senior student of the University of Pennsylvania has received a training in the recognition of the physical signs of phthisis in that hospital, which I doubt has been equalled in any other school. Yet how easy it would be for other universities to establish a similar hospital of twenty-five beds for cases of tuberculosis. Arrangement could be made in some sections of the country to have the state or city pay the hospital for the care of patients.

Of course our schools should not be satisfied with such improvised hospitals and laboratories. They should in time give place to buildings of the most approved plan, so that work may be done most efficiently. These structures should be characterized by their utility and simplicity. There need be no stately façade or other costly ornamentation. Architects are apt to be more eager to build a hospital that will increase their fame rather than one that will give the physicians and surgeons what they want. Huxley's advice to the Johns Hopkins University has been rarely followed. "Whenever you do build," said he, "get an honest brick layer and make him build you just such rooms as you really want, leaving ample space for expansion." Universities would do well to put less money into their buildings

and more silver into the pockets of their professors and instructors.

Those who wish to construct hospital wards in which economy of construction has been combined with the maximum efficiency would do well to visit the new Bay View Hospital at Baltimore, or study the plans of the new Children's Hospital and the Peter Bent Brigham Hospital in Boston.

The glory of a medical school should be its teachers and scholars and not its material, equipment or the number of its students. The great advance that has been made in the fundamental sciences of anatomy, physiology, biological chemistry, pathology and pharmacology during the past two decades in America is a cause for rejoicing. The researches published from our best laboratories are read all over the world, and our scientists are honored everywhere. The laboratory instruction given in our best schools has been regarded as worthy of imitation by English and German teachers.

Between the character of the work in these branches and that of the last two years of the medical course there is a wide gulf. Even in our best schools the teachers of the clinical subjects are practitioners of medicine dependent upon private work for their bread and butter. Many of them, impelled by financial considerations, think first of their private practice, secondly of their hospital, and lastly of their school. Many of the clinical teachers lack the scientific spirit. That is not their fault in most instances, for they were trained by men of the same stamp, and the scientific spirit must be instilled into a man when he is young if it is to live and grow. It is amazing that even to-day clinical professors who pride themselves on being "practical" men should be content to teach solely by didactic and demonstrative methods, for the essence of education is direct contact with reality. The first requirements of a scientific teacher are that he should be a good observer himself and that he should teach good methods of observation to his students. Some popular teachers who are able to arouse interest and enthusiasm in their students are failures because they lack these two essentials.

The advance that has been made in recent years in the application of chemical and physical methods to the study and treatment of disease makes it imperative that the teachers of clinical medicine shall be well trained in the fundamental sciences. Under the present conditions the lack of correlation between the teaching of the laboratory years and the clinical years is inevitable because most of the clinical teachers lack the time as well as the training to keep in touch with the progress in physiology, chemistry and pathology.

As the science of clinical medicine embraces pathological physiology and applied pharmacology, it is essential that a professor of clinical medicine in the future shall have a knowledge of these subjects. Furthermore, many clinical problems can only be solved at the bedside and in the laboratory by the application of the methods of physiology, chemistry and pathology.

If the professor of internal medicine is to teach and work in the wards and carry on investigations in the clinical laboratory, he cannot do a large consulting practice at the same time.

The solution of this difficulty is by eliminating the necessity of private practice, and this can only be done by paying sufficient salaries to the clinical teachers so they may be in a position to devote all or nearly all of their time to the university. The professorial class in America is shamefully underpaid, and an earnest effort should be made to pay the clinical instructors adequate salaries and to raise those of other branches to the same level. Some consultation work might be allowed, but if the fees went to the department it would not only serve to pay in part the increased salaries, but it would keep the extra-mural work within bounds.

Long apprenticeship is necessary before men are fit to discharge satisfactorily the duties now imposed upon the professors in the clinical branches. The present leaders of German medicine served many years in subordinate positions, and they owe their eminence in medical science to the broad and deep foundation laid during the long years that they worked "*in der Stille*." Krehl was for nearly seven years an assistant in the Leipsic clinic of Wagner and Curschmann and then for six years more in the small polyclinic at Jena. Friedrich Müller was for many years an assistant in Gerhardt's clinic, and after that was for a long time in charge of the little medical polyclinic in Marburg.

University hospitals when organized in this country should place paid assistants in the wards, with their time divided between routine work and research. Many bright young fellows would gladly devote all their time for a few years to this work if they saw any chance for an academic career. Already the administrators of universities in different parts of the country are on the watch for well-trained young men in the clinical branches, and it is not an uncommon occurrence for men to be called from one city to a higher post in another.

A singular feature in the organization of the clinical departments of American medical schools is the large size of the teaching staff, with the notable exception of the state universities of Michigan and Iowa. Even Hopkins, so admirable in many respects, has thirty-one instructors in internal medicine, the University of Pennsylvania has thirty-one, and Harvard twenty-six. Compare this with the University of Munich, in which six teachers give all the instruction in internal medicine this semester, Heidelberg seven, and Tübingen five. It can be truly said that more individual instruction in clinical medicine is given in our schools than in the German universities, but certainly as much personal teaching is done in pathology as in clinical medicine, and yet Hopkins has only seven teachers in its pathological department, Harvard ten, and the University of Pennsylvania seven.

Many of the instructors in internal medicine give only a little time to teaching and less to the

preparation for their task. They are paid little or nothing, and with them teaching is but an incident in the busy life of the practitioner. The assumption that almost any man with a hospital training can teach medicine is wrong. Few have been sufficiently trained in observation and few keep abreast with advances in diagnosis and treatment. What does it profit a student to be well trained in observation during the laboratory years if he learns faulty methods of examination from his instructors in clinical medicine? Students are unconsciously imitative and after they have seen their teacher in the dispensary "run off" the clinic for a few weeks it is not surprising that they acquire unscientific and superficial ways of working in spite of careful training in the years that have preceded.

In America too much use is made of dispensaries and out-patient departments in clinical teaching. The records are usually poorly kept and the student is apt to take them as his models rather than the records of the wards which he so rarely visits. I have even known an instructor to ridicule a student for writing a careful, detailed note on a physical examination. Hasty work is unfortunately necessary in undermanned out-patient departments, and for that reason students should not take part in the routine work, for the best men will tend to become careless and superficial. A class room adjoining the dispensary should be provided, and in this the instructor freed from other duties can teach the student correct methods.\* This is not a novel idea; it was advocated by Dr. Osler many years ago, and all visitors to his "observation clinic" know how admirably it worked at the Johns Hopkins Hospital.

All teaching hospitals should place senior students as clinical clerks in the wards and thus supplement the work of the internes. This is done already, I am glad to say, in the St. Joseph's Hospital and the Hospital of the Good Shepherd in this city, in the Johns Hopkins Hospital and in six of the New York City hospitals.

If the students' powers of observation at the bedside are to be developed they must be taught and compelled to keep good records, and all details of their work carefully supervised. The scientific method in clinical training which I have advocated is no new method, but it is the only one by which medicine ever has been or ever will be advanced.

I congratulate you, graduates of Syracuse University, that at a time when the truth Louis taught, that medicine was a science of exact observation, was almost forgotten, your teachers strove, and I use their own words, "to inculcate exact methods of observation and the development of that sense which will allow correct reasoning, and prevent inaccuracy, superficiality and slovenly habits."

May the dissatisfaction with existing conditions that pervades our medical schools to-day not cease until clinical medicine and clinical research attain such a high stage of development that students will gather in our universities from all parts of the world as they did of old in those of Italy.

## Original Articles.

## THE HASTENING OF WOUND HEALING BY MEANS OF SKIN GRAFTING AND THE USE OF CERTAIN ORGANIC COLORING MATTERS.\*

BY JOHN STAIGES DAVIS, M.D.,

Instructor in Surgery, Johns Hopkins University, Baltimore, Md.

## INTRODUCTION.

WHEN I received an invitation from your secretary to read a paper before this Society I will admit that I accepted with considerable trepidation, as it seemed like "bringing coals to Newcastle" for any one to come to Boston to talk on the healing of wounds.

I should like to say now that I do not pretend to bring before you anything especially new, but want simply to speak about certain well-known procedures.

No attempt will be made even to outline the various procedures which have been employed to hasten wound healing, but I will confine myself to the methods of treatment which in my hands have yielded good results.

The wounds to be considered are those where, for one reason or another, there has been destruction of the whole thickness of the skin over an area of such size, or in such a situation, as to make the usual process of healing stretch out over a period of months, or possibly years.

The course and end results of the unaided healing in these cases is, in many ways, unsatisfactory. Among them, the discomfort to the patient and drain on the vitality; the liability to infection during the treatment; the unstable type of healing and probability of further breakdown, and the frequent occurrence of deformities due to contraction of the scar tissue. The economic aspect of the subject must also be considered, as the actual expense of the extensive dressings and time consumed in making them is a large item, especially if the patients are in the free ward, or in the out-patient department.

The reasons mentioned above should be sufficient to stimulate the surgeons in charge to continue their efforts to hasten the healing, and also might interest the hospital superintendents.

Unfortunately, many surgeons lost interest in the treatment of these extensive wounds after a time, especially if several unsuccessful attempts have been made at grafting, and the patient either remains in the hospital to be dressed by the nurses or internes, or returns for a routine dressing in the dispensary.

## METHODS OF AIDING WOUND HEALING.

There are two general methods for aiding the healing of such wounds. First, by the transplantation of skin. Second, by the application of substances which will bring about rapid epithelial stimulation. A combination of the two methods is very advantageous in some instances.

\* Read before the Surgical Section of the Suffolk District Medical Society, Boston Medical Library, Feb. 7, 1912.

## SKIN GRAFTING.

The history of skin grafting will not be taken up, as it was fully considered, as indeed was the entire subject of skin grafting, in an excellent paper by Ehrenfried and Cotton in the *Boston Medical and Surgical Journal* of December, 1909.

**Definition.** — By "skin grafting" we mean the transplantation of either the whole thickness or a portion of the thickness of the skin from one part of the body to another, for the purpose of closing a breach of surface in the skin; in order to hasten its healing process, and to prevent, as far as possible, future cicatricial contraction. This may be done immediately on a fresh wound, or after repair has set in.

**Classification.** — In a general way grafts may be divided into *thin grafts*, where only a portion of the thickness of the skin is utilized, as obtained by the methods of Reverdin and Thiersch; and *thick grafts*, where the whole thickness of the skin is used. This latter division includes whole thickness sessile flaps and whole thickness pedunculated flaps. Grafts may be further classified into: *Auto*, or homo, grafts, where the graft is obtained from the same individual; *Iso*, or hetero, grafts, where the graft is obtained from another individual of the same species, and *zoö* grafts, where the graft is obtained from a lower species.

**Surface to be grafted.** — Whether to graft immediately or to wait until granulations have formed is a matter to be considered. There is no doubt that it is best to graft at once any clean operative defect; for instance, such a one as is left by the removal of a carcinoma of the breast; and such grafts are usually successful throughout. On the other hand, grafts placed immediately on the periosteum of the skull, after avulsion of the scalp, are much less liable to be successful, on account of the poor periosteal blood supply, and it is best to wait until healthy granulations have formed.

Grafts may be placed on a fresh wound, on undisturbed granulations, on granulations slightly rubbed with gauze pledgets, or on the firm base after the granulations have been removed. In my experience, any type of graft will take as satisfactorily, if not more so, on undisturbed granulations as on fresh wounds, provided that the granulations are healthy, firm, rose-pink in color, and are not exuberant.

It seems reasonable to believe that the capillary loops of undisturbed granulations are in better condition to immediately penetrate the graft than if these loops have been disturbed or curetted off and have to regenerate before they can penetrate and effectually nourish the newly transplanted skin. This regeneration takes about twenty-four hours, which means that considerable time is lost before the newly formed vascular loops are even ready to enter the grafts. Time is gained, therefore, by placing the grafts on undisturbed, healthy granulations.

Other advantages in placing grafts on such a surface are that there is no pain in the prepara-

tion of the surface; no loss of blood, which is an important point in cases already much depleted; little likelihood of blood or serum collecting under the graft, and no danger of stirring up infection.

*Preparation of granulating wounds.*—It is impossible to give definite directions as to the stimulation and treatment of granulating wounds, as each is more or less a law unto itself. However, there is one point to be especially emphasized. The general health of the patient should be built up by every means at our command. One is often impressed when visiting surgical wards or dispensaries at the absolute neglect of this most important therapeutic aid, and it is quite remarkable to observe the change for the better in some of the wounds following the administration of tonics, with forced feeding, fresh air, etc.

There are various ways of stimulating the growth of granulations: Painting with tincture of iodine; touching frequently with nitrate of silver; dressing with balsam of Peru, either pure or mixed with castor oil in various proportions; with dressings saturated with normal salt or boric solutions; with liquor sodæ chlorinatæ and water 1:8; chloral hydrate solution, 2 gr. to the ounce of water; saturated aqueous solution of picric acid; modified styrax ointment; polyantiseptic ointment of Réclus, etc.<sup>1</sup>

In dealing with unhealthy, exuberant granulations, a satisfactory and rapid method is to cauterize the surface thoroughly with pure carbolic acid and remove the granulations down to the firm base. Then dress with dry gauze over which is placed sterile boric ointment, or with wet salt gauze. Within twenty-four to forty-eight hours the new granulations will be firm, flat, healthy and ready for grafting. The free use of curved scissors is often desirable.

Another useful method, which takes more time but is equally effective, is to clean and dry the granulations and swab the entire surface with a saturated solution of nitrate of silver; over this paint one or two coats of tincture of iodine, and expose to the air and light. Finally, dress with balsam of Peru, 1 part, castor oil, 3 parts, on old linen, and carry out this procedure each day. A few days of such treatment will make a vast difference in the appearance and condition of an unhealthy granulating area.

Edematous granulations may be reduced with glycerine compresses or be covered with strips of rubber protective and a flat gauze dressing, held in place by a very snug bandage. Strapping the edematous area with zinc oxide plaster is advantageous in some cases.

*Method of preparing the skin from which the graft is to be cut.*—A satisfactory method of cleansing the skin before removing grafts of any kind is to shave the part selected, then scrub carefully with green soap and water. Rinse with sterile water, sponge with ether followed by alcohol. Then rinse thoroughly with normal salt solution.

Iodine technic is also applicable for disinfecting the skin before cutting all types of grafts, and seems to have no deterrent effect on the healing.

Dr. J. L. Yates, of Milwaukee, first called my attention to this method of cleansing the skin before cutting Thiersch grafts. By the use of this technic perfectly dry grafts can be obtained.

#### THIN GRAFTS.

*Reverdin's method,<sup>2</sup> 1869. Technic.*—The simplest way to obtain these grafts is to transfix a bit of the epidermis with a straight intestinal needle held in an artery clamp. Raise it so that a little cone is formed, and then with a sharp scalpel cut off the tip of the cone. Transfer the graft, still on the needle, to the undisturbed healthy granulations, with the raw surface downward, and press firmly into place with a pledget of dry gauze. Unless the entire wound is to be grafted, it is best to place the grafts near the growing edge of the wound and to arrange them in rows or clusters, leaving a space of about 5 mm. between each graft. I believe that more stable healing is produced when the grafts are placed this distance apart than when they are planted with greater intervals between them. This method gives numerous epidermic islands from which the new epithelium will spread to fill the gaps between and finally meet the stimulated epithelium from the edges of the wound.

Small deep grafts including nearly the whole thickness of the skin may be obtained by depressing the edge of the scalpel and cutting through the base of the cone.

Dress the grafted area with narrow overlapping strips of sterile rubber protective and either expose to the air or cover with a light wet salt dressing. The area from which the grafts are obtained may be dressed with silver foil, sterile boric ointment or any other desirable sterile dressing.

As these grafts are obtained without much pain and are applied to undisturbed granulations, general anesthesia is unnecessary. However, when a number of "pin grafts" are to be cut, it is desirable to inject 1% quinine and urea solution, or  $\frac{1}{2}$ % novocaine, and take the grafts from the anesthetized area.

The procedure is by all odds the simplest method of grafting, but is tedious when a large area is to be covered. Very little skill is required in cutting and placing these small grafts, and they are almost uniformly successful when reasonable care is exercised.

The final healing of an extensive surface is not as stable following grafting by this method as from the methods to be described later, and there is more likelihood of ulceration and future cicatricial contraction. The cosmetic result is also not so good. However, I have used Reverdin grafts placed close together in selected cases with great satisfaction and with excellent results. In fact, on some wounds it seemed impossible to get any other type of graft to take.

*The Thiersch method,<sup>3</sup> 1886. Technic.*—The modified technic, which is in use at the Johns Hopkins Hospital, and with which I am most familiar, is as follows: After cleansing the skin as above described place a small sand bag beneath



the arm or thigh in order to give a better surface from which to cut. Arrange the usual sterile dressings about the selected area. Care must be taken that no carbolic or bichloride solutions be brought into the field or touch the grafts, either on the dressings, gloves or instruments.

Firm traction is exerted on the limb. The skin, wet with salt solution, is then put on the stretch, and held as flat as possible by means of two sterile boards about eight inches long placed quite close together at right angles to the length of the limb, one being held by the assistant and the other by the left hand of the operator. The field is soaked with normal salt solution and the edge of a thin sharp Catlin knife is then engaged in the skin between these boards and held almost flat against the limb, and by a sawing motion the graft is cut, the knife closely following the board in the hand of the operator, which is drawn slowly along in front of it. The graft is cut at a level which will include the top of the papillary layer of the corium, and only a slight amount of bleeding will follow.

The graft is then placed, with the raw surface uppermost, upon a piece of protective, and the whole then placed on a board, and by means of a blunt instrument the graft is spread out evenly and to its full extent. It is then covered with gauze wet with salt solution and put aside until required.

Being sure that the wound to be grafted is perfectly dry, the protective on which the graft is spread is placed over the defect, so that the graft is next to the wound. Gradually the protective is lifted up and the graft separated and left in place. It is then pressed down evenly and snugly on the wound with gauze pledgets in order to get rid of air bubbles and to make it adhere as closely as possible. This maneuver is the most satisfactory way of handling Thiersch grafts of every size, and any one who tries it will be convinced of its efficacy and simplicity. If more than one graft is needed, they should be placed so that they overlap a little the edges of the wound and the adjacent grafts.

Immediately over the graft place rubber impregnated mesh and secure its edges with adhesive plaster, in order that it may grasp the grafted area firmly and hold the grafts snugly in position. The mesh is especially indicated where, on account of the position of the defect, the grafts are liable to be displaced. Over the mesh, moist salt dressings may be placed, and the whole secured by a bandage. Silver foil is the dressing most commonly used at the Johns Hopkins Hospital, and is very satisfactory for Thiersch grafts.

A good dressing for the area from which the graft is cut is a sheet of perforated sterile rubber protective, covered with boric ointment, and held in position by adhesive plaster. Over this is placed a light gauze dressing, and the whole secured by a bandage.

Although Thiersch grafts may be cut under local anesthesia, as a rule a general anesthetic is used when grafts of any considerable size are

required. By the method above described very large grafts may be obtained, but this requires more or less skill and considerable practice.

I will mention a few measurements to give an idea of the size of single grafts cut with a Catlin knife: 8 x 16 cm., 10 x 18 cm., 12 x 12 cm., etc. In fact, single grafts have been cut the entire length of the thigh and from 8 to 12 cm. in width.

Thin Thiersch grafts of uniform thickness seem to take better than those of varying thickness. It is very difficult to cut a large graft from a fat or flabby thigh.

Phlebitis of the long saphenous vein has followed cutting Thiersch grafts from the left thigh, and for this reason the right thigh should be used whenever practicable. As far as I can ascertain, no case of phlebitis has followed cutting on this side.

When more skin than is required is cut, it can be grafted on the area from which it came with complete success.

What seems to be a failure at the first dressing will sometimes turn out very well.

Some grafts are quite dry during the healing process, while others are moist. In the moist variety a strong, characteristic glue-like odor is often noticed; this is probably due to the secretions which are held in by the dressings.

Thiersch grafts adhere to the underlying tissues for a much longer time than whole thickness grafts, and the majority of Thiersch grafts, especially on breast cases, that I have examined were still adherent throughout the greater part of their extent, even after several years.

The Thiersch graft cut by one method or another is that chosen by the majority of surgeons, and the healing of an area covered with the large thin grafts is very much more stable than the healing following the small thin grafts of Reverdin.

#### THICK GRAFTS.

*Whole thickness pedunculated flaps.*—Before the technic for the transplantation of whole thickness sessile flaps was perfected and proved so successful, whenever a thick graft was necessary better results were obtained by living pedunculated flaps, either from neighboring or distant parts, with subsequent amputation of the pedicle.

Transplantation from distant parts is as a rule very trying to the patient because of the enforced position, and in addition a considerable defect is left. However, the raw area as well as the under surface of the flap may be covered by thin or thick grafts.

Sliding plastic flaps from neighboring parts are of great value in the treatment of certain defects. Also pedunculated flaps from distant parts, which are brought into position by either a single or double transfer. I will not take up the special methods advocated by various surgeons on account of lack of time.

The pedicle may be amputated in from five to fourteen days, and the edges of the separated base should then be shaped and sutured into position.

Pedunculated flaps which are properly cut, as

a rule are successful. By this method a considerable thickness of subcutaneous fat may be transplanted with the flap.

*Sessile whole thickness flaps:* LeFort,<sup>5</sup> 1872; Wolf,<sup>6</sup> 1875; Krause,<sup>7</sup> 1896. *Technic.*—After cleansing the skin, and drying it carefully, mark out lightly with a scalpel an elongated ellipse, in order that the edges of the wound can be easily approximated after the flap is removed, remembering that the skin after being cut immediately shrinks to about two thirds of its original size transversely, and a little less in its length. Remove the skin with the underlying fat by a few clean sweeps of the knife down to the fascia or aponeurosis covering the muscle. Then lay it on the palm of the hand, raw side up, and trim off the fat in one piece with curved scissors. Buttonhole the flap here and there or perforate with a leather punch, and press down snugly on to the fresh wound, or on carefully dried, healthy granulations. I believe that better results can be obtained by preserving a perfectly dry technic until the graft is in place.

The rubber-impregnated mesh is advantageous as a splint for this type of graft also. It is wise to make the flap additionally secure by means of numerous superficially placed fine silk sutures, where accurate approximation is desired, as, for instance, on the face. Moist salt dressings over the rubberized mesh are usually the most satisfactory, and should be kept on from twenty-four to forty-eight hours. Then remove the dressing down to the mesh and either replace the moist dressing or anoint with some bland ointment and expose to the air. Silver foil is also an excellent dressing for whole thickness grafts.

After transplanting whole thickness grafts to the palm of the hand or fingers for the relief of contractions, I have found it advantageous to put the part up in a plaster cast, and leave it undisturbed for three weeks.

The skin may be taken from almost any situation where there is sufficient laxity of tissue to admit the suturing of the edges after removal of the graft. The graft should be selected with due regard to the type of skin which is to surround it. For instance, it is advisable, where transplantation to the face is proposed, to select the inner fore part of the upper arm, as it is thin and practically hairless.

As an example of the contraction of a whole thickness graft, immediately after cutting, the following measurements may be of interest: As marked out on the skin of the thigh before cutting, 14 x 3.75 cm.; after removal, 10 x 2.5 cm.; area of wound after removal of the flap, 16 x 6.5 cm. It is important to handle the skin as little as possible.

The ideal result desired in whole thickness grafting is elasticity, softness, movability and normal color. Krause says all of these are obtained in one third of the full takes, but my experience shows a considerably larger percentage.

The operative procedure in securing thick grafts is undoubtedly much greater than for thin grafts, but, on the other hand, the healing following thick grafts is as stable and firm as normal skin. I

believe that the ultimate result in selected situations will more than justify the discomfort experienced by the patient. I have not yet seen a contraction occur under a whole thickness graft, but under an area healed by thin grafts contraction is not uncommon, especially in the palm of the hand.

Thick grafts are usually obtained under general anesthesia, preferably nitrous oxide, but can be removed perfectly well under local anesthesia after outlining the flap or blocking a nerve.

As the success of the flap depends on the blood supply of its new bed, it follows that sessile flaps should not be placed on uncovered cartilage, nor be used for bridging over defects, but that pedunculated flaps be used for this purpose. However, sessile flaps can be successfully placed on tendons, fascia, muscle, cortical and spongy bone, periosteum, and even on the dura mater.

Krause advised against the use of whole thickness sessile flaps in face plastics, as he says there is liability to blotchy brown pigmentation, and that cyanosis may persist in the flap for months. Furthermore, that the surface of the flap may become irregularly shriveled, and although these changes in no way impair the efficacy of the flap, he advised Thiersch grafts or pedunculated flaps for this region. As all of these conditions may occur also in thin grafts, I use whole thickness sessile flaps on the face in preference to thin grafts, as I have found the lasting and cosmetic results have been so much better.

There is a prevalent idea that whole thickness sessile flaps must be small in order to heal successfully. My experience has been that you can transplant as large a graft of this type as you can safely provide, and the larger the grafts, the fewer the scars between them.

Vascular sprouts have been demonstrated in epidermic grafts on the second day, and in cutis grafts on the third day. Under whole thickness grafts a layer of adipose tissue regenerates within a comparatively short time, and this is most important, as it prevents contraction and insures early movability.

Whole thickness grafts which are placed on untouched granulations project at first above the level of the surrounding skin, but during the process of healing they assume the normal level.

The Thiersch method will, of course, remain the method of choice on account of its simplicity and smaller operative action, and on account of the large areas which can be covered at one grafting, but in such localities as the elbow, palm of the hand, knee and heel, and in other regions where there is considerable pressure and friction, the thin grafts will not stand the strain, and grafts of whole thickness are indicated.

*Iso or hetero grafts.*—There is much difference of opinion as to the advisability of utilizing iso or hetero grafts, and many surgeons insist that only auto grafts should be used. Lexer,<sup>8</sup> at the meeting of the German Surgical Congress in 1911, went so far as to state that it was useless to try iso grafts as none of them ever took and, furthermore, none of them ever lasted longer than three

weeks. There is no doubt but that there are certain individuals on whom iso grafts will not take, the reason for which I am not yet prepared to say. On the other hand, I have seen individuals on whom iso grafts from a number of different people have taken without difficulty. Of course auto grafts are more likely to succeed, but a study of the results obtained by means of iso grafts at the Johns Hopkins Hospital, and also my own experience with these grafts, have convinced me that both thin and thick iso grafts are well worth trying, and that very good lasting results may be secured in some cases if the grafts are obtained and transplanted with the proper technic.

Even though an iso graft should not last more than three weeks, as Lexer claims, it has the power of markedly stimulating sluggish wound edges, and would be useful for this purpose alone.

In reviewing the first 550 cases grafted at the Johns Hopkins Hospital, there were 42 cases in which iso Thiersch grafts were applied.<sup>9</sup> Twenty-one were complete takes, 16 partial takes, and 5 were total failures, thus showing that iso grafts are well worth trying.

When iso grafts are used it is of great importance that the individual from whom the grafts are obtained be healthy, as cases of syphilis, tuberculosis and smallpox have been reported as having been transmitted in this way.

**Zoö grafts.**—Both thin and thick zoö grafts have been used, and a number of successful cases have been reported in the literature. The skin of dogs, lambs, rabbits, guinea pigs, frogs, etc., has been used. The most uniformly successful reports seem to follow the use of skin from a young pig. My own results with zoö grafts have been disappointing. Most of the grafts would apparently take and would bleed when cut into, but within a few weeks they would melt away.

**Changes in pigmentation.**—It is interesting that grafts from a negro which have been successfully transplanted on to a white person gradually fade and assume the color of the host, and vice versa. This has been established by a number of observers, and has also been the experience at the Johns Hopkins Hospital.

It must be borne in mind that some auto white grafts become deeply pigmented during the process of healing, and this pigment remains in the grafted area. This fact must be remembered where pigmentation of white grafts on the negro takes place. In the few cases reported where black skin transplanted on to a white person remained pigmented, this same process might have occurred after the natural pigment had been disposed of.

From observation I am convinced that the actual change in the color occurs. There are several theories concerning these changes, but lack of time prevents their consideration here.

**Vitality of grafts.**—It is not necessary to apply grafts immediately after cutting, and grafts which are kept moist and cold can be transplanted after a number of days or weeks with as good results as when just cut. This is very important,

as grafts can be cut at the time of operation when the patient is under a general anesthetic, and applied later, if conditions for immediate grafting are not satisfactory.

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- <sup>1</sup> *Modified styrax ointment*: Olive oil, 100 gm.; liquid styrax, 50 gm.; rosin, 35 gm.; rosin elemi, 35 gm.; yellow wax, 44 gm. (Fouchard.)
- <sup>2</sup> *Poly-antiseptic ointment*: Iodoform, 1 gm.; orthoform, 4 gr.; antipyrin, 5 gm.; salol, 3 gm.; ac. boric, 3 gm.; bichloride of mercury, .1 gm.; ac. carbol., .5 gm.; vaseline, 200 gm. (Beason.)
- <sup>3</sup> J. Bull. et mém. Soc. de Chir. de Par., Dec. 8, 1869.
- <sup>4</sup> Verhandl. d. deutsch. Gesellsch. für Chir., Berlin, 1874, p. 69; 1886, p. 17; 1888, p. 66.
- <sup>5</sup> Ann. Surg., March, 1909, p. 417.
- <sup>6</sup> Gaz. des Hôp., 1872, nr. 7.
- <sup>7</sup> Brit. Med. Jour., Sept. 18, 1875, p. 360; Glasgow Med. Jour., July, 1876, p. 420.
- <sup>8</sup> Sammlung klin. Vorträge, 1896, n. 143.
- <sup>9</sup> Arch. für klin. Chir., heft 4, 1911, p. 827.
- <sup>10</sup> Johns Hopkins Hosp. Rep., vol. xv, p. 307.

(To be continued.)

## CHRONIC INTERSTITIAL NEPHRITIS. ACUTE INDIGESTION AS AN IMPORTANT SYMPTOM.

BY MALCOLM SEYMOUR, M.D., BOSTON.

THAT gastro-intestinal disturbance in the course of chronic interstitial nephritis is not uncommon is evident not only from the number of cases which come to our attention, but also from the newspaper reports of similar cases.

Almost daily we read of the death from acute indigestion of some prominent public or private individual.

The cause of death here is evidently not indigestion in itself. There must be some underlying factor, and in a large majority of cases involvement of the kidneys will be found.

To be sure, not every case of gastric disturbance in the adult has a contracted kidney and uremia as a foundation, but if greater care be used in finding a cause of the indigestion or dyspepsia, attention will oftener be directed to the kidneys.

Many writers have called attention to our inability to make a correct intra-vitam diagnosis of chronic interstitial nephritis. This is due many times to careless history taking, hurried examinations, under-valuation of supposedly unimportant symptoms, and erroneous interpretation of urinary findings.

It is not my purpose to go into a lengthy discussion of chronic interstitial nephritis, but to direct attention to the too frequently overlooked evidences of renal involvement, with special reference to the altered digestive function and to the analysis of the urine.

Chronic interstitial nephritis is essentially intransient in its course. Its onset is masked by other deteriorative processes and compensatory changes. Once established, it is slow and persistent, spectacular signs and symptoms are usually lacking, and it is the apparent absence and meagerness of signs, especially in its earlier stages, which characterize the disease. This applies not only to the symptomatology and physical manifestations, but to the excretory function of the kidney.

Until we have more knowledge as to the cause of the disease, or until more light is thrown upon the processes of metabolism and elimination, we cannot understand its various phases. Why one individual with contracted kidneys can live a happy, active and useful life, and die in old age from an intercurrent disease, or why a youth will develop the affliction resulting in a more or less speedy termination, or why a person in middle age will, without warning, and while apparently enjoying perfect health, suddenly drop dead from uremic poisoning, we do not know. Also, we do not understand why uremia will develop regardless of any known cause, or without change in mode of living.

Hopeless as the problem may seem, there are many signs and symptoms which will aid us in arriving at a correct diagnosis if proper interpretation is made of, and due importance given to, supposedly unimportant features. The diagnosis is comparatively simple where we have evidences of enlargement of the heart, dyspnea, headache, muscular weakness, increased arterial tension and symptoms of toxemia, with an overwhelming uremia, but in the earlier stages, where many of these symptoms are lacking, the diagnosis is not so simple. One of the most important symptoms in the earlier stages, before compensatory changes have taken place, are those of the gastro-enteric system, and present themselves in a mild form of uremia.

These mild symptoms of uremia or toxemia, probably resulting from retained poisons due to faulty metabolic changes, may be so slight, and the increase in severity so slow, that the individual does not think his condition serious. He considers himself a chronic dyspeptic. He frequently complains of nausea, has aversion for food, especially for meat; in fact, he has a poor appetite. He takes bicarbonate of soda after his meals. After no indiscretion in eating or drinking, and after no change in his mode of living, he occasionally has what he terms a "frightful bilious headache," accompanied by nausea and vomiting, and severe *epigastric pain*. This sudden onset of epigastric pain, nausea and vomiting is often termed "ptomaine poisoning," and similar mistakes in diagnosis are altogether too frequently made. The trouble may clear up in a few hours, or two or three days, and the patient may go on for weeks or months without a return of any alarming symptoms, or, as is often the case, his condition becomes more serious. The nausea, vomiting, headache and severe epigastric pain continue, the mental state becomes more involved, coma develops and death follows in a few hours.

Occasionally, even after the development of coma, we see a patient recover and, in the course of a week or so, he may be able to get about and lead his usual life, apparently none the worse for having passed through so distressing and alarming a sickness. The prognosis, therefore, is notoriously uncertain.

There is probably no disease of the kidneys where so little is found in the urine which may be

termed striking. In a case of uncomplicated chronic interstitial nephritis, it is the absence of urinary findings that is diagnostic. Many cases show not even the slightest possible trace of albumin on the most careful analysis, and the amount rarely goes above a slight trace, with the nitric acid contact test.

When I was a medical student, the teaching in the medical schools was to the effect that where there was no albumin there could be no casts, and thus no disease of the kidneys. This of course is not so.

Frequently, I have seen assistants in clinics, and also the "busy practitioner," take a more or less cloudy and unfiltered urine and carelessly pour in nitric acid, hurriedly hold the urine-glass against the sleeve, and say, with apparent satisfaction: "The urine is all right; no albumin, no Bright's."

To be sure, the casts — which are of the clear hyaline type, long or short, broad or thin — are few, and may be absent, but a careful search of the centrifugalized sediment of a twenty-four-hour output of urine will often show them in considerable numbers, and even in greater numbers if a freshly passed specimen is centrifugalized. A few small, round cells are usually present. There may be a rare red blood corpuscle.

(In one of my recent cases, during a uremic seizure, the urine was decreased to 250 ccm. in twenty-four hours. The following day the output rose rapidly, the gravity fell to 1015, the color was pale, the albumin amounted to the slightest possible trace with nitric acid. Eight hours later, a single 240 ccm. specimen was passed, blood-red in color, with abundant sediment of 5 ccm., consisting principally of blood. The next day the urine was pale straw in color and the blood had almost disappeared.)

The color is usually pale and the reaction decidedly acid.

A single specimen, taken at random, may show a specific gravity of 1020, or higher, whereas in a specimen from a carefully collected twenty-four-hour output, the specific gravity is usually between 1005 and 1015. This low gravity, then, is of the greatest importance.

Ordinarily, the twenty-four-hour excretion will be found to be increased, and will amount to between 2000 and 4000 ccm.

Unfortunately at present the determination of the nitrogen content as a routine procedure for the busy general practitioner is impossible. Primarily, the proteid intake must be carefully computed, and the resulting nitrogenous output as carefully measured. This involves a more or less complicated computation of food values, which must be considered in the final nitrogen determination, and the latter is only possible to those who are in easy reach of a chemical laboratory. The older methods of determining the urea content as a measure of renal functioning are worthless. The same applies to the ammonia, chlorides, sulphates and phosphates, unless done in a well-equipped laboratory.

CASE 1. M. T., age fifty-two, married; family and past history negative. An active man, in the retail trade, his business requiring moderately long hours, but careful attention to detail. Unusually busy at certain seasons, especially during the holidays.

*Present illness.* — For the past two or three years he has had three or four attacks of indigestion, lasting for a few hours, occasionally for a day or so. These attacks would usually follow no indiscretion in diet, and he obtained relief after using bicarbonate of sodium and catharsis. A mild headache usually accompanied the indigestion. On Dec. 31, following his busy holiday trade, he came home from business suffering with severe epigastric pain. He had eaten nothing which he thought might have been the cause of this attack. He vomited, and went to bed. He complained of severe, blinding headache, not confined to any part of the head. The pain in his epigastrium was almost unbearable.

*Physical examination* (two hours later). — A well-developed man, slightly overweight, mental state showed slow cerebration, but he could be aroused. He answered questions with difficulty. The answers were delayed. The speech was thick. The pupils were of normal size and reacted to light. The tongue was protruded slowly, in the middle line. The radial pulses were equal and skipped a beat once or twice during a minute. The systolic blood pressure was 130 mm. The heart was considerably enlarged, downward and to the left. The action was slow, — 64, — and there were no murmurs. The temperature was slightly elevated, — 100° F. The physical examination was otherwise negative. A specimen of urine which was passed with some difficulty showed a specific gravity of 1022. The color was rather high. There was a large trace of albumin, sugar was absent, the sediment showed abundant, clear, hyaline, fine and coarsely granular casts. There were a number of red blood-corpuscles.

Jan. 1, 1912: He felt much better. His mental condition had improved, but the speech was still thick. There had been no further vomiting. He had very little appetite and complained of a slight headache. Systolic blood pressure was 170 mm. He had passed 300 ccm. of urine in the twenty-four hours. The color was still slightly high, the specific gravity 1018. There was the slightest trace of albumin; sugar was absent. The sediment showed a few clear hyaline and finely granular casts, and a few red blood-corpuscles.

Jan. 6, 1912: He felt as well as ever. Systolic blood pressure, 185 mm. The heart action was regular; size of the heart as before. Twenty-four-hour amount of the urine was 2000 ccm., the color was pale, with specific gravity of 1010. The albumin amounted to the slightest possible trace, with heat, but was absent with the nitric acid contact test. The sediment showed a rare clear hyaline cast. There was no blood.

Jan. 8: He returned to business, and said that he felt as well as he did before this last attack.

This case well illustrates many of the important characteristics of the disease, and shows the ease with which it might be mistaken for acute indigestion, ptomaine poisoning, etc. The sudden onset, the nausea and vomiting and severe epigastric pain, the alarming mental condition (the latter especially trying to his family), all pointed to gastric involvement. The superimposed acute process on the chronic condition, shown by the decreased amount of urine, the presence of a larger quantity of albumin, and the character of the sediment, together with the increase in specific gravity, were very typical.

CASE 2.<sup>1</sup> An individual was taken ill in the street. He went into a chemist's shop and received a draught. He immediately fell dead on the threshold, as if struck by lightning. The passers-by fancied that the man had been poisoned by the chemist, so they set to work and smashed everything in his shop. An autopsy showed markedly contracted kidneys and hypertrophy of the left ventricle of the heart.

CASE 3. (Kindly submitted to me by Dr. Geo. B. Tuttle, Medical Reserve Corps, Fort Columbia, Wash.) Private G. W. L., age thirty-five, single; Coast Artillery Corps, Fort Columbia, Wash. Sept. 13, 1910. Family history negative.

*Past history.* — Never any serious illness. Has had indigestion to a slight extent at different times.

*Present illness.* — Is slightly anemic; temperature normal; pulse 78; respiration 18; slightly constipated; urine 1012, slightly acid, no sugar nor albumin, clear and of a straw color. He was returned to duty on Sept. 24, 1910, very much improved. On Oct. 10, 1910, he again came on sick report and was admitted to the hospital, in about the same condition as before. The urine was normal. He complained of slight pain in the upper left quadrant of the epigastric region, increased after eating; belching and burning sensation in the throat. Temperature normal; pulse 82; respiration 18; bowels sluggish. The urine was not examined at this time. He was given 200 mgm. of calomel, and 375 mgm. of soda bicarb., in broken doses, and this was followed by 30 ccm. sat. solution of magnesia sulphate. After the bowels were cleaned out he was put on hydrochloric acid, dilute, before meals, and sodamint tablets after meals; diet of milk and toast.

Oct. 5: A bronchitis developed, which responded to treatment in five days.

Oct. 25: The urine was examined. It was clear, no sediment, specific gravity 1010, no albumin and no sugar. The microscopical examination was not made.

Oct. 27: He vomited his breakfast, but said he had eaten one or two pancakes and the vomiting was attributed to this. He was put on a diet of soft boiled eggs and milk toast, with some improvement in his indigestion, but still complained of some pain in the left upper quadrant of the epigastrium.

Nov. 1: He had permission to take a walk and after about one hour returned, feeling slightly fatigued.

Nov. 2: His urine was examined, and albumin was present, and a diagnosis of chronic parenchymatous nephritis was made and he was started on Basham's mixture.

He now became rapidly worse, and on Nov. 5 sank into a coma about 6 p.m., which continued about thirty-eight hours, till death at 2.30 p.m. on the 7th.

Marked and increasing dyspnea was present during this state of coma, but no convulsions at any time. He was catheterized every six hours at this time, the urine showing one half of 1% albumin. He was bled at 11 o'clock a.m. on the 7th of November, and about 500 ccm. of blood was withdrawn. There was no edema at any time, not even a slight puffiness of the face. The age of the patient, thirty-five, was not such as to lead one to suspect a lesion of the kidneys, and the absence of albumin in the urine was also misleading.

The history was merely one of indigestion. A post-mortem was held, and granular kidneys were found. There were no cysts, the color was dark red, and on section, tough. There was increased fat in the pelvis. There were no other remarkable pathological findings.

<sup>1</sup> Alfred Fournier: Des Formes de l'Urémie. P. Brouardel, 1897: "Death and Sudden Death."

## CONCLUSIONS.

1. Loose diagnostic terms, as "acute indigestion," "ptomaine poisoning," and their like, should be avoided.
2. More care should be used in finding a possible cause of gastro-enteric disturbances, especially indigestion and dyspepsia.
3. Carelessness in urinalysis may be dangerous, — both to the physician and to the patient.
4. "No albumin" does not mean "no nephritis."
5. Increased twenty-four-hour output of urine with persistent low gravity, associated with gastric disturbances, should strongly suggest involvement of the kidneys.

## POST-TYPHOID DYSPEPSIA.\*

BY ANTHONY RASSLER, M.D., NEW YORK.

SINCE the time that typhoid was separated from typhus fever, the medical world has been littered with a consideration of this protean disease. The contributions on typhoid fever from American sources alone comprise one of the instructive eras in the development of medicine in America. Judging from the very thorough knowledge that we have of this disease in the way of the bacillus typhosus, the modes of infection, pathology, symptomatology, complications, sequelæ, prophylaxis and treatment, it would seem as if the last words have been said. And still, within recent years, new facts pertaining to the disease have

\* Read before the New York Academy of Medicine, April 16, 1912.

been pointed out, among which are states of a chronic type following the acute course of the infection, most notably metastatic deposits, chronic gall-bladder infections, and to which the general term of the "typhoid-carrier" has been given.

It occurred to me several years ago that in the histories of patients mentioning states of chronic disturbances in the digestive tract there presented a history of a previous typhoid fever in more or less association with the beginning of the dyspeptic symptoms in a considerable proportion. In this connection, the recent advances drawing attention to the persistency of the typhoid bacillus in stools and urines of patients who had been infected, led to the analyses of the histories of 472 cases taken serially among those I saw in private practice, and the making of stool and urine examinations of those in whom it seemed warranted to assume that the typhoid fever had to do with the dyspepsia then present; and also to a comparing of the number of instances of typhoid fever with the two commoner diagnoses presented in the past histories of the cases, namely, appendicitis and pneumonia. In these 472 cases, there were 132 instances in which various diseases and conditions were connected with the history in certain suggestive, causative ways. Of these, there were 24 instances of typhoid fever; 17 who had had appendicitis, and 10 who had had pneumonia. There were 4 who had had typhoid, appendicitis and pneumonia closely enough associated that differentiation was not possible; and 76 cases with other states not considered in this article.

In 472 case histories:

## TYPHOID FEVER.

Case Number.	How long ago contracted.	Dyspeptic symptoms begun.	Age now.	Typhoid bacilli in stools.
1.	21 years.	11 years after.	40	None, 3 examinations.
2.	24 "	11 years after.	40	None, 5 "
3.	10 "	1 year after.	29	None, 7 "
4.	7 "	Continuous.	36	Present periodically, 13 "
5.	4 "	2 years after.	28	Present periodically, 9 "
6.	22 "	1 year after.	49	None, 6 "
7.	13 "	5 years after.	36	None, 5 "
8.	20 "	1 year after.	42	None, 3 "
9.	11 "	1 year after.	23	Present periodically, 9 "
10.	13 "	9 years after.	28	None, 5 "
11.	36 "	Continuous.	50	Present constantly, 11 "
12.	16 "	Continuous.	32	None, 6 "
13.	2 "	1 year after.	36	Present periodically, 14 "
14.	14 "	10 years after.	24	None, 4 "
15.	21 "	18 years after.	54	None, 5 "
16.	2 "	6 months after.	22	Present constantly, 7 "
17.	19 "	1 year after.	29	None, 5 "
18.	5 "	Continuous.	26	Present periodically, 10 "
19.	35 "	8 years after.	44	None, 7 "
20.	27 "	5 years after second.	38	None, 15 "
21.	15 "			
22.	16 "	13 years after.	30	None, 3 "
23.	10 "	1 year after.	48	None, 8 "
24.	16 "	Continuous.	51	Present constantly, 8 "
			35	Present periodically, 16 "



## APPENDICITIS.

Case number.	How long ago contracted.	Dyspeptic symptoms begun.	Age now.
25.	12 years.	5 years before.	32
26.	2 years.	1 year after.	26
27.	8 years.	Continuous.	47
28.	14 years.	26 years before.	58
29.	10 years.	1 year before.	43
30.	9 years.	Continuous.	30
31.	1 year.	Continuous.	39
32.	11 years.	4 years before.	29
33.	2 years.	2 months after.	19
34.	11 years.	10 years after.	31
(Two operations on appendix.)			
35.	2 years.	Continuous.	40
36.	20 years.	6 years after.	44
37.	10 years.	2 years after.	43
38.	6 years.	5 years after.	40
(Appendectomy at once.)			
39.	7 years.	3 years before.	30
40.	7 years.	6 years after.	33
(Operated upon.)			
41.	12 years.	5 years after.	38

## PNEUMONIA.

Case number.	How long ago contracted.	Dyspeptic symptoms begun.	Age now.
42.	39 years	15 years after.	55
43.	20 "	3 years after.	30
44.	3 "	7 years before.	47
45.	10 "	9 years after.	30
46.	6 "	14 years before.	65
47.	7 "	6 years after.	24
48.	12 "	19 years and indefinite.	31
49.	20 "	19 years after.	43
50.	18 "	13 years after.	54
51.	14 "	10 years after.	34
52.	10 "	9½ years after.	31

One,—Typhoid and appendicitis close enough together that differentiation was not possible.

One,—Typhoid twice and pneumonia once close enough together that differentiation was not possible.

Two had both typhoid and pneumonia close enough together that differentiation was not possible.

Miscellaneous conditions having a close association with the beginning of dyspeptic symptoms given in the order met with in the history files: Ptomaine poisoning, mental shock, acute indiscretion of diet, exhaustive labor, syphilis, pregnancy and post-partum, alcoholism, chronic intestinal putrefaction, definite cases of gallstones, poly-arthritis, rheumatism, splanchnoptosis, pulmonary tuberculosis, acute gastritis, gynecological conditions, occupational, tropical intestinal disorders, heart, kidney and liver conditions, gastric ulcer, malaria, trauma, diabetes, neurasthenia, la grippe, erysipelas and peritonitis. Total, 76 cases.

In analyzing these histories it is apparent that in 15 instances of typhoid fever the dyspeptic symptoms began within two years after the attack. In 6, the beginning dyspeptic symptoms closely followed the fever and had continued with an average duration of the dyspeptic history of over eighteen years. In 9, the dyspeptic symptoms began within two years following the attack of the fever, with an average duration of the continuation of a dyspeptic history of eleven years and six months. Averaging these, it is seen that in the 15 cases which began with dyspeptic symptoms following the typhoid in a short space of time, to consider a connection between them, the average duration of the dyspeptic history at the time the cases were seen by me was fourteen years and nine months, and that in 24 instances of typhoid fever states of chronic dyspepsia followed in 62½%.

Leaving out of consideration the miscellaneous conditions mentioned as the cause of dyspepsia, it is interesting to compare the above with appendicitis and pneumonia. Since we are well aware that dyspepsia commonly follows attacks of acute appendicitis and accompanies the chronic, it is interesting to observe that in the 13 unoper-

ated cases in which a definite diagnosis of appendicitis had been made at some time previous, states of dyspepsia close enough associated with the history of appendicitis to be considered in any causative way existed in only 6 cases, a percentage of slightly over 30, about half of that following typhoid fever. It therefore seems reasonable to assume, even deducting from this limited number of cases, that states of chronic indigestion follow typhoid fever twice as frequently as disease of the appendix. In the pneumonia cases, there was no instance shorter than three years after at which the dyspeptic symptoms began, and, with our knowledge of life's history of the pneumococcus, this entire set of cases may be considered as having no etiological connection with dyspepsia.

In the great majority of cases of typhoid fever, and perhaps always, the typhoid bacilli are present in the gall bladder during the attack, and the bacilli may persist in the gall bladder after the attack for an indefinite period—in instances of as long as eighteen years are on record. Herewith is reported a case in which they were recovered thirty-six years after, and others at shorter intervals. It is known also that

typhoid bacilli may occur in the gall bladder as a local infection without the patient ever having had typhoid fever as we usually see it to be in a clinical way. From the above statistics and close study of many other histories of dyspepsia cases, it seems warranted to assume that the general term "post-typhoid dyspepsia" is worthy of consideration, and that not a few of the cases of typhoid fever present this following the acute course, which lasts from two to seven weeks, in persons who at that time acquire a general immunity which banishes the bacilli from the blood and causes a cessation of general symptoms although the germs still persist in some regions of the body, notably in the gall bladder and intestines. It is known also that there is a proportion of instances in those who have been exposed to the ingestion of typhoid bacilli in which no reaction occurs with any disturbance to health, but whose blood serum nevertheless displays a marked agglutinating action on the typhoid bacilli. Whether or not intestinal ulceration is present or absent from these cases cannot be determined, although it is probable that a proportion are affected, since typhoid ulcers have been found in people dying suddenly of heart failure who had been in apparent good health. It has been stated that the typhoid bacilli in cases in which no obvious illness follows their ingestion always disappear, and that in 95% of the acute typhoid cases the bacilli disappear rapidly and that health is restored. It seems to me that these beliefs can be questioned as being too conservative. It is interesting in this connection to consider in what locality the typhoid bacilli may be latent in the cases which have apparently recovered from the fever and in which one or two examinations of the stools do not show their presence later than three weeks after defervescence. In this is bound up the interesting subject of chronic bacilli carriers, and the question as to whether in such instances the bacilli are only present in the gall bladder and whether or not they are constant denizens of the bacteriology of the intestinal canal. This differentiation in the majority of instances is impossible by ordinary physical and in a few even careful examinations of the feces. It seems reasonable to believe that in those who excrete the typhoid bacilli in a periodical way (and even here irregularity may exist for a time) years after the acute disease are probably gall-bladder cases. A close study of all kinds of infections of the gall bladder will often give a distinct suggestion of periodicity, due probably to the gall bladder requiring a certain length of time for complete emptying and thus discharging large quantities of its contained bacilli into the intestine, or certain states of digestion or general health causing a proliferation of the gall-bladder bacilli.

Mayer has pointed out that in addition to the lesions of the biliary tract the typhoid carriers may suffer from frequently repeated attacks of intestinal catarrh. In the 15 cases whose dyspeptic symptoms followed within two years after the typhoid fever, I recovered the typhoid bacilli

in 9, 6 of them being present in the feces in periodical ways and 3 continuous. In only 1, however, was it possible to make a diagnosis of a chronic enteritis by the history and the examination of the feces in its mucous content and crystals. It seems probable, therefore, that all of the others were either chronic gall-bladder infections, chronic infections of the bacteriology in the intestine, some infected focus of a chronic type in the lymphatic structures of the intestine, or combinations of these.

In these cases, 307 analyses of the urine were made for the typhoid bacilli and in none of them were they found, although the colon bacillus was regularly found present in Case No. 19. What was of still greater interest was that in the 29 Widal tests of the blood, 2 in each case and 3 in Case No. 16, not one gave a reaction that could be considered positive in a diagnostic way. This is not only of interest in showing that this simple to perform test (as compared to the feces examinations) is of no value in the diagnosis of these chronic typhoid conditions, but is of moment in showing that this reaction may not persist as long after typhoid fever as we have believed. The nearest approach to a reaction was seen in Case No. 23, in which in two examinations it was present in dilutions of 1:20. Leucocyte counts were made in all, and in none was this distinctive in any way.

In the 6 cases in which the typhoid bacillus could not be obtained from the stools, other diagnoses were apparent to account for the dyspeptic symptoms. In 5 of these, chronic excessive putrefaction in the intestine due to a high content of the *B. coli communis* was apparent, and it may be that an attack of typhoid infection can cause a change in the running state of the bacteriology of the intestinal content in that direction. All of these were distinct indolic cases with a bacteriology characteristically Gram negative, in 4 as high as I have ever seen.

The technic employed in the separation of the typhoid bacilli from the other bacteria of the stools was made in each stool examination by three methods: those of Conradi-Drigalski, endo fuchsin-agar, and the Bendick method. The typhoid bacilli were tested further by staining with the Gram method, grown in glucose-agar stab, litmus milk and on potato.

In 4 of the 6 cases that were probably chronic gall-bladder infections, a definite tenderness to deep pressure existed in the region of the gall bladder, although none had any demonstrable enlargement or firm feel to the liver. In the 3 that seemed to be infections in the intestines, there were no local tendernesses that I could elicit. In all of the 9 cases the history of more or less headaches was a feature, and seven complained of attacks of "biliousness," these coming on at intervals of every few weeks in the beginning of their dyspeptic history, and after that more often. In 3 the attacks began with an intense headache, followed shortly by nausea and finally vomiting for several hours, the whole seizure lasting about a day. A feature with all of them was a shortage of ability to withstand mental

effort or physical strain. They were always tired and became excessively nervous, with physical exhaustion when attempting these. The bowels moved normally in all, only one being constipated, and she only occasionally. The majority of them were subnourished and showed evidences of gastro-intestinal atony and ptosis. Two, however, were very well nourished, with organs in good tone and position. All of the cases in whom the typhoid bacilli were recovered from the stools claimed that they had not had the dyspeptic symptoms before their attacks of typhoid fever.

Of distinct interest were 4 of the cases who submitted themselves to a length of treatment for their conditions. Two of these were probably gall-bladder cases, and two probably intestinal ones. These were established on a diet arranged according to their work, age and physical condition, given  $7\frac{1}{2}$  gr. (0.5 gm.) of urotropin before the meals and 1-10 gr. (0.065 gm.) of calomel one hour afterward, and treated for six weeks with autogenous typhoid vaccine up to 400 million at a dose every fourth day, and then a stock typhoid vaccine for six weeks up to 400 million at a dose at the same intervals. At the end of the third month, although all claimed to have been improved in their symptoms, further examinations of their stools were made, and in each the typhoid bacilli were still present. It seems to me as if we would have to turn to surgical drainage of the gall bladder in those cases in which we can reasonably assume that the gall bladder is the source of the infection. For if we desire to render them symptom free in a logical and permanent way, and consider the public health of others in a general way insofar as typhoid fever is concerned, more than what medical treatment can now accomplish seems necessary in these cases.

#### CAUSES FOR FAILURES IN TREATMENTS OF CHRONIC JOINT DISEASES, AND SOME SUGGESTIONS HOW GREATER SUCCESSES CAN BE ATTAINED.

BY H. W. MARSHALL, M.D., BOSTON.

(Concluded from No. 22, p. 808.)

#### WAYS IN WHICH GREATER SUCCESSES IN TREATMENT CAN BE ATTAINED; AND OTHER CONSIDERATIONS.

*Possibilities existing for cures at the present time:* Granting that refinements in physiologic and hygienic methods are desirable and in the right direction, the practical question arises how far skill in carrying out such measures is likely to extend; and already how much progress has been made.

Upon looking through the list of patients that are benefited now, it is seen that permanent cures are possible when contributing infective foci can be entirely eradicated by surgical means. These surgical measures include widely varying kinds; tonsillectomies, hysterectomies, operations upon intestines, salpingectomies, extraction of teeth, drainage of nasal sinuses, mastoid operations, etc.

Relief becomes permanent when unrecognized defective personal habits can be corrected that have been acting as contributing causes; and when unusual unrecognized fecal impactions exist that may be readily removed and prevented from recurring. These latter presumably act as foci and contribute toxic substances to the circulation.

Types of mechanical origin often can be relieved completely by surgical operations that remove loose cartilages or hypertrophied synovial folds that are perpetuating joint symptoms; or by surgical corrections of deformities; and by mechanical rest. Gouty attacks can be partially controlled by reducing purin bodies in the food, and by regulating the functions of the kidneys.

Personal hygiene is responsible perhaps for a larger number of cures than all others, particularly with many mild cases of every type; and the value of such general measures in tubercular, hypertrophic and atrophic varieties already has been mentioned.

*Treatments from standpoints of general practitioners and patients:* Busy physicians in general practice haven't time to critically examine the relative merits of different methods and therapeutic agents which abound in an extensive medical literature upon arthritis. They are compelled to accept the work of others without making many personal modifications, because often it seems impossible to care for many patients who have widely differing complaints, and simultaneously to carry on careful observations upon them in the nature of personal investigations.

The error which some doctors fall into on account of scarcity of time, and which patients contribute to themselves by their restlessness, is trial of so many new things that understanding of arthritis is lost and best methods of treatment are forgotten. Reliance is placed upon luckily finding, among new ideas and remedies, indiscriminately experimented with, some that fit patients' needs instead of depending upon knowledge of physiologic and hygienic principles of treatment.

At the present time selections of remedies not infrequently depend upon their recent appearance in medical literature. New drugs, and new preparations of old ones that are put up in attractive form, often owe their extended use to successful business methods of drug firms. Fancies of patients determine the use of some, and idiosyncrasies of physicians are frequently responsible for other choices which are made.

As long as selections depend upon these considerations instead of physiologic ones, failures of cures are bound to occur more frequently than need be. Hazy ideas of the nature and varieties of joint diseases, and failures to realize possibilities and limitations of treatments seem to make a few physicians mere providers of new remedies for their patients.

It is only just to patients, however, that every clinician who proposes to treat chronic joint diseases should have definite ideas about them, and

interest enough to select for use an appropriate number of methods from the many that are available, and to learn the exact possibilities of each.

Most doctors do this, yet there are some who do not, and they continue to prescribe haphazard measures at odd moments to cripples when they have leisure time.

Because processes are slow, remembrance should not be lost of the fact that joint diseases are produced by perfectly definite causes and that existing conditions have developed through definite sequence of events. Treatments should aim to be equally definite in character and to be carefully considered from point of view of the order of their administration.

Although some cases cannot be helped now, the dividing line between incurable and curable ones is very variable and not well defined. Consequently thoughtless prescriptions and lack of interest presumably take away some patients' only chances for recovery, and there seems no good reason why almost as much thought and care should not be given to treatment of arthritis with its possibilities for crippled, prolonged existence as to acute maladies involving life and death.

*Summary of important hygienic principles and illustration of their applications:* The following essentials are ones the writer believes should be used, not simply remembered as sounding interesting or reasonable.

(1) Recollection that hygienic measures are physiologic ones, always applicable to every case, and the only effective treatments for some types of arthritis.

(2) That health of joints is a matter of physiologic balance between local joint resistances and external factors acting upon them. That ratios of one to the other have more significance in maintenance of health than independent degrees of tissue resistance, or total sums alone of combined external stimuli. That amounts of individual factors contributing to the total sum of external ones which are stimulating the joints also are dependent upon ratios. For example, that healthy vascular balance depends upon relative amounts of absorptions and of eliminations, upon amounts of metabolism in comparison to eliminations, rather than upon absorptions, metabolism or eliminations independently.

(3) That avoidance of overdosage and fatigue effects from too many or too frequent applications of remedies is necessary.

(4) That over-stimulations and straining of vital resistances from simultaneous applications of several remedies in depleted conditions, when there are several defects to be corrected, also must be guarded against.

(5) That proper alternations of rest and stimulation never must be neglected.

(6) That sequence of events in personal histories and in development of arthritic lesions must be kept in mind.

(7) That no long courses of treatments should be prescribed without first experimentally finding out resistances and reactions of each individual, because these cannot be predicted beforehand with certainty.

(8) That one step at a time should be taken in an intelligent way, and accurate observations made of the effects of each step; then the next one determined from judgment of the preceding one. Estimation of the probable significance of the results observed at each step must depend upon previous knowledge of the physiologic factors known to control health of joints.

A theoretical case will be given as an illustration of the way treatments should be directed, assumption being made that the patient exhibits quite serious progressive symptoms, a lowering of vitality and incapacity after a year's time. Determination and willingness of the patient to follow directions also are supposed to exist. The type of lesion will not be designated because all may be benefited by hygienic measures, and the case will simply be considered an obscure one. Nor will special measures be described, although local supports, surgery, etc., may be needed; but entire attention will be concentrated upon hygienic phases of treatment.

It is well to inform such a patient at the outset that no novelties will be used. Explanations instead should be given why only reliable, well-understood remedies are employed, and that presumably there are a number of different agents which may effectively meet requirements, but that the precise ways in which they are administered will be responsible to a very large degree for success or failure, similarly as successes of a skilled mechanic must depend upon his dexterity as well, or perhaps more, than upon his tools.

The first thing to be done is to look over the whole situation superficially, experimenting a little with remedies that have been selected, and avoiding starting immediately upon any single prolonged treatment. The patient should be told further that a long time possibly will be needed; and an outline of the proposed treatment roughly given will enable him to understand what is being attempted and keep his confidence and interest.

A good way to begin upon such a person, with well-marked symptoms of fairly long duration, is to prescribe rest in bed for a week with regulation of the diet and water drinking according to the patient's natural inclinations simply, while routine physical examinations and a few special tests are made. This period allows time for ideals to be formed of the general condition, and of special problems that present themselves.

After the preliminary rest various measures are tried in an experimental way. They are tried singly as far as possible, and for a minimum length of time, to ascertain roughly their particular influences upon the particular individual. Later some are used again and some avoided because they are harmful.

Because any given treatment is found to be beneficial at first, it is not continued until its

effectiveness begins to wane and another has to be found. This is commonly done, but the method is advised of stopping administrations of effective remedies immediately as soon as their effects can be definitely appreciated. Trials of other kinds of remedies with very brief intervals of rest between each are then made instead, and in rotation. Collection in this way of data upon a number of therapeutic agents first seems likely to increase chances of successfully retracing the course back to health over which the patient has traveled in development of his lesions.

In the first experimental stages of treatment chances of final success are likely to be increased also if attention is paid closely to details of dosage, rates and durations of administrations; so that any desired effect of these experimental treatments can be produced again at will with accuracy.

For illustration, if it is supposed that one hydrotherapeutic treatment is prescribed experimentally, and followed by a second one after two days, then discontinuance of further treatments is ordered. The doctor who proposes to cure many patients must know accurately what these treatments comprise and exactly what patients' reactions and feelings were subsequently.

If each hydrotherapeutic measure is made up of a radiant heat bath, followed by a shower and terminated with mechanical friction, the details that must be known for use in future administrations are the length of time of administration and strength of the radiant heat bath; length of time of administration and temperature of the shower bath; length of time and strength of mechanical friction; patients' pulse rates before and after baths; visible reactions observed during each stage; and patients' statements of their feelings during the various stages and subsequently to their baths.

If these details are kept in mind and applied to later treatments results will be better than with prescriptions of hydrotherapy three times a week in routine manner, and without knowledge of details beyond occasional reports of patients that they enjoyed the previous ones.

Other measures are not as complicated as hydrotherapeutic ones; yet close attention to the effects of each constitute the important small points which probably will make success possible if it is to be attained.

The list of necessary measures is not a very formidable one and will vary with different doctors; but it should contain methods representing the different physiologic ways in which joints may be influenced: the vascular, mechanical, external and nervous ones that have been mentioned. Medicinal tonics; high frequency electrical treatments; simple variations in diets; water drinking; cathartics, diuretics, colon lavage, local stimulations, protective apparatus, exercises, etc., make up the list.

The preliminary trying out period with patients probably is as important as preliminary testings of various parts of a complicated machine are, and which always are made to learn its peculiari-

ties and defects before attempting to put it into running condition again, or to tune it up to its greatest efficiency.

Of course an individual cannot be treated like a machine, and preliminary tests cannot be applied in regular rotation for definite lengths of time with the precision that is possible with the latter. Variations and omissions are bound to be required for each person, and insistence only is made that similar precise rational principles be copied as far as practicable by physicians, for principles in the two instances can be the same although execution of details differs.

The general plan of treatment is observed to consist of trials of different simple measures in rotation first in order to determine roughly the natures of main defects and to prevent overlooking any important ones, then to follow up these preliminaries by further elaborations, combinations, etc., of important ones as skillfully as possible, with closest attention to all physiologic refinements of details which have been insisted upon.

When enough data have been assembled and everything is ready for a determined, intelligent effort being made to regain the lost balance of health, a start is cautiously made with constant remembrance of hygienic necessities which have been mentioned: the need of alternate periods of stimulation and rest; of avoidance of over-stimulation and fatigue in the different ways that have been enumerated; of carefully beginning with small doses; of cycles of mild stimulations and rest periods being very gradually increased according to responses observed in preceding ones; and of combinations and changes in kinds of agents in manners too complex for brief description. The windings of the course cannot be predicted far in advance, but must be picked out slowly and safely by familiarity with physiology and watching of developments, and with aid of additional new judgments made at each step.

Restoration and control of such healthy balances by therapeutic means is not very easy now, but improvements are seen with practice as directors of the situations learn to comprehend the whole problem quickly, and know the kinds of agents and amounts of each to administer in order to force patients back over the route traversed in the past without getting off the course in the return to health.

Although it is impossible always to steer patients back over paths they have come, yet very considerable increase in percentage of cures is attained by careful attention to these hygienic details, as every physician who has taken the time to familiarize himself with the intricacies of the subject will admit.

The writer's contention is that progress by refinements in hygienic measures is the proper direction to pursue in the future irrespective of the present degrees of success, because they are applicable to all kinds of diseases and ought to be combined carefully and skillfully with all kinds of special methods.

*Physicians and other artisans* use methods which are comparable, and those of mechanics illustrate clearly the resemblance of the ways of their calling to methods employed by doctors with arthritic patients, and, therefore, these will be spoken of in order to present the same important features again from another standpoint.

When wear and tear of constant use have resulted in damage to certain parts of a very complicated machine so that some of its bearings break, the mechanic first examines the local difficulties, then looks over the whole machine, and perhaps tries cautiously to start it up while watching intently its various actions.

If he is skillful, and understands how things are intended to work normally he will discover the defects that are acting as causes, although they consist only of very slight ones in many different parts, — perhaps many ordinary loosenings and tightenings coming from continual use that have combined to produce the trouble in the bearings.

Also, if he is skillful, he will try cautiously various changes in the existing defective combinations; setting up some screws and nuts, loosening others, discovering those which cause great or slight abnormal frictions, oiling bearing surfaces, etc., until the right combinations are found experimentally; and strains upon the parts that have been broken are relieved. Precision in the degrees of loosening, of tightening, of oiling, etc., have as much to do with successful repair or attainment of highest efficiencies in machines as matters of dosages, frequencies and durations of administration have with patients.

The unskilled workman may not be able to discover the causes when there have been no obvious accidents or unusual occurrences, and such situations are very "obscure" to him. Or he may recognize where the defects are, but be unskillful in handling his tools, over-correcting or under-correcting the defects he discovers, yet perhaps succeeding in getting the machine to running again although not very smoothly.

The poor results obtained by unskillful mechanics with their simpler machines, when at times very few bungling corrections are causes of very disastrous effects, serve to show the great importance there is attached to skill in administering remedies properly in complex human mechanisms with their greater chances for errors when lack of comprehension of arthritic processes exists.

Those who object to comparison of corrections of machine defects with treatments of human defects should turn to developments in surgery. Good surgery still can be done with comparatively few simple instruments, and depends as much upon experience, understanding of principles of surgery and dexterity of the operator as upon special modifications of standard instruments which perhaps are designated by the surgeon's name. So, too, it seems the success of treatment for chronic joint diseases are determined by similar considerations.

In chronic joint diseases there are numerous

worn-out patients with histories of no serious illnesses, nor anything in particular to account for the onset of their articular symptoms. These are the obscure cases which particularly require proper understanding of the normal physiologic ways joints may be influenced in order to pick out the small defects that are acting, and in order to correct them.

As interest of physicians in arthritis diminishes, proportions of "obscure" cases and haphazard methods of treatment increase simultaneously, and thus does lack of interest seem to be responsible to an important degree for lack of efficiency of cures.

Invention of new tools and new remedies always must be encouraged, while recognizing at the same time that all such instruments should not be employed indiscriminately by any one person. The number of facts which may be known safely, however, can be increased indefinitely with advantage, but numbers of agents actually used by any single individual should be limited by the capacity of the user to employ them intelligently. When too many are tried the quality of workmanship becomes poorer, and products of such workmanship also are of inferior quality, whether they are corrections of machine defects or results seen in treatments of patients.

*Considerations of future refinements in treatments and limits of skill:* The common prevalence of arthritic diseases will cause continuance of their study, although obscurities associated with them do not appeal to most physicians, and observations will go on accumulating in clinical, chemical, pharmacological, physiological, bacteriological and biological journals. Increasing complexities in the situation will be accompanied by an increasing need also for collecting and systematizing the isolated facts which are scattered throughout different kinds of scientific journals, and which have a bearing upon arthritic problems.

The clinical worker, busy with new clinical phases, soon will not have time to familiarize himself with ever-growing complexities of laboratory studies; and laboratory workers will not find time to keep closely in touch with clinical journals. Nevertheless the desirability of maintaining intimate relations between the two groups of men is generally recognized to be a benefit, for energies spent in amassing knowledge otherwise are not used to greatest advantage, unless the practical significance of such accumulations also is made clear and utilized in relief of the sick.

Increasing complexities consequently seem likely to make further differentiations necessary; and besides clinicians and laboratory workers, a third class of systematists perhaps will be found useful. The duties of the latter possibly will consist in sorting over data to bring out new groupings of facts that have much greater practical usefulness, and thus to advance understanding and skill in treatment of disease.

Possibly such persons will devote their time mainly to systematizing and reviewing data that



have already been collected, and avoid contributing new experimental observations which require much time and thought. Instead, the amount of energy that is used by laboratory workers and clinicians in producing original observations from experiments will be devoted by them to puzzling out relations, and fitting facts together intelligently, with a care that will be impossible with the others.

Arthritic problems on account of their obscurities need such reviews at the present time; and this article is designed roughly along such lines, contributing no new facts, depending for its justification upon pointing out some of the main clinical considerations and discussing them upon a basis of physiology and biology. If some of the readers have brought to their attention old ideas in a new, more significant way its mission is fulfilled; and it will be contributing to relief of patients and increasing the number of cures perhaps more than if it dealt with interesting new discoveries.

Tedious sorting over of facts and attempts to fit them into new, useful combinations are phases of investigations that are liable to be slighted; but under present conditions, with great superabundance of accumulated data that are poorly understood and poorly applied, there seems no alternative for this rather thankless puzzling over existing circumstances, and laborious picking out of related facts until obscurities begin to disappear. In this way alone does it seem possible to bring useful classifications and arrangements out of the chaos that now exists.

When related circumstances are coupled together and properly located in a general complete chart of arthritic manifestations, then new discoveries can be directed more advantageously, and facts already known will be utilized much more profitably in practice than otherwise.

Future refinements mean attention to trivial details that previously were disregarded in cruder methods, and as long as underlying main principles are correctly used, it seems there is no limit to which such refinements can be employed with advantage. They should be used, although some hasty observers are misled into thinking their main features on account of their numbers and prominence, and although such persons fail to connect them with the underlying inconspicuous, sound principles of which they are elaborations.

It seems unwise to consider any reactions of living protoplasm trivial, because some so considered may suddenly assume unexpected importance; and like beginners in chemistry who do not see the difference at first between pouring water into concentrated sulphuric acid and pouring concentrated sulphuric acid into water, original investigators of medical problems often cannot know differences until they try experiments and find out how important some details are which seem absurdly trivial and unimportant.

Exactly how far human skill can go toward relieving joint diseases it is impossible to predict with any degree of accuracy. Lack of interest and carelessness in administering remedies now hold out hope for greater success when these de-

fects are improved upon. And great advances in organic chemistry show to what degree this exceedingly complicated subject can be understood through careful study, and also offers some encouragement for similar improvements in complicated biologic problems. The direction that progress should take seems clearly indicated anyway as along biologic and physiologic lines.

After a number of years spent in studying arthritic problems continuously, the writer is more and more impressed with the importance of ordinary personal hygienic measures in treatments. These are so familiar that they seem very commonplace, and are possessed of so very little interest that they are applied rather carelessly usually.

It should be remembered, however, that presentations of all new special methods include references to hygienic ones as necessary accompaniments, or to them as those upon which dependence is placed wholly for cures after exact diagnoses have been made. Whether arthritic lesions are tubercular, gonorrheal, or of other obscure infectious nature; whether gouty, atrophic, hypertrophic or neuropathic; whether surgical, vaccine or medical treatments; all include some attention to personal hygiene.

If there could be a general revival of interest in these simple matters, with enthusiastic attempts at developing them in precise physiologic ways which have been hinted at in this paper under the summary of hygienic principles, it might happen that more patients could be cured than from discoveries of specific nature; especially when cures still depend so largely upon personal hygiene notwithstanding specific reactions.

If personal hygienic measures could gain the commanding position in the list of remedies used by practitioners generally which their universal applicability entitles them to; and if hygienic combinations received as careful attention as is given any very important single new discovery; such combined treatments would hold their supremacy very easily, presumably, as the list of parasitic micro-organisms increases in the future and complicated diagnostic reactions, specific tests, etc., become too numerous and perhaps too depleting to be applicable to patients. In addition to study of special effects of many different bacteria upon the individual, and as the list lengthens, there may be in the future more emphasis laid upon the ways all may be combatted by restoring and raising normal protective functions and healthy reactions of patients.

It should be remembered that health in every person is dependent upon combined physiologic influences; and no matter how refined single special methods become, the latter never can take the place of the united action of several different remedial measures.

Favorable hygienic combinations of remedies are necessities, and since hygienic considerations must be dealt with always they should be made as perfect as single details if possible, even though they are more complicated and more difficult to apply with precision.

Much greater skill in putting together remedies

into favorable combinations, greatly increased familiarity with these various arrangements, with their limitations and possibilities, are features that seem especially needed now. And the writer believes that such efforts will result in the most important advances in treatment of chronic joint disease, rather than from single new remedies, which in the past have generally been disappointing and which presumably will continue so in the future, until they are fitted intelligently into the most efficient combinations, and prescribed in ways that resemble roughly the ways all living tissues normally maintain their life.

### Reports of Societies.

#### COLLEGE OF PHYSICIANS OF PHILADELPHIA.

MEETING OF WEDNESDAY, APRIL 3, 1912, AT 8 P.M.

THE President, DR. GEORGE E. DE SCHWEINITZ, in the chair.

#### AN EPIDEMIC OF EPITHELIOMA (MOLLUSCUM) CONTAGIOSUM, WITH SOME NEW OBSERVATIONS CONCERNING THE "MOLLUSCUM BODIES."

DR. M. B. HARTZELL: The paper reports a most extensive epidemic of epithelioma (molluscum) contagiosum occurring in a large institution for young men. There were several hundred cases extending over a period of four years. Apart from the extent and duration of the epidemic, many of the cases presented more or less unusual clinical features. The number of lesions in many cases was unusually large, in some instances amounting to a hundred or more, and in many cases marked itching was present. The disease was almost certainly transmitted by the towels in the gymnasium and swimming pool. In sections of a tumor fixed and stained according to the method of Levaditi some new features were found, such as the partial inclusion of cells and forms of cell not previously described. Some of the cell-forms were undoubtedly the result of degeneration of the rete cells, but as to others, the evidence was not sufficiently convincing entirely to exclude other possibilities.

#### DISCUSSION.

DR. F. C. KNOWLES: I had an opportunity of seeing these cases. They were exceedingly interesting in that the lesions were found upon the trunk, and not as usual upon the face near the eyelids. I have seen two cases in which the scalp has been involved, and a few in which there were lesions on the penis and some on the scrotum. The contagiousness of the disease is either comparatively slight or takes a long time to act. In a home with which I was connected, I saw and reported 59 cases of molluscum contagiosum in about 400 children in six years. In one instance I was successful in obtaining inoculation upon the skin producing the typical lesion of this disease. Usually itching is a very rare symptom.

#### PARTIAL GASTRECTOMY IN A CASE OF MULTIPLE CARCINOMA OF THE STOMACH.

DR. JOHN H. GIBBON: The patient was a man forty-eight years of age who was operated upon on Jan. 27, 1912. He had had no gastric symptoms prior to June, 1911, when he began to have attacks of vomiting. He was very anemic and had lost weight very rapidly. The history, blood examination, gastric analysis and

physical examination indicated gastric cancer. An x-ray plate showed two lesions in the stomach along the greater curvature. No tumor could be felt. When the abdomen was opened two distinct hard cancerous areas were found along the greater curvature at the points indicated in the x-ray plate. A partial gastrectomy was done. The patient made a satisfactory recovery and has gained 12 lb. in the past three weeks. Examination of the two ulcerated areas, which were separated by healthy mucous membrane, shows one to be adenocarcinoma and the other a medullary carcinoma. The interesting points in the case are the short duration of the gastric symptoms when considered in connection with the extensive, hard ulcers found in the stomach, the different histological structures of the two growths indicating that each is primary; and the fact that the growths were so situated that implantation by contact was impossible. The growth and microscopical sections were exhibited, and reference made to similar reports in the literature of multiple primary cancer.

#### DISCUSSION.

DR. W. M. L. COPLIN: An interesting factor from the pathological standpoint is the question whether or not the cylindrical cell or adenocarcinoma involving a glandular mucosa is or may be a preliminary or early stage of spheroidal or round-cell carcinoma, so-called. A possibility that has not, so far as I know, been urged is that in glandular mucosa possessing cylindric cells the initial stage of cancer is cylindric cell in type, and that following the rapid proliferation of invading cylindric epithelial cells a transformation gradually takes place, spheroidal cells eventually predominating. If, by any possibility, such a view be correct, then, instead of regarding these growths as essentially distinct primarily, it might be better to assume that one has either reached a later stage of invasion and evolution or is growing with such rapidity that the typical cylindric cell is not produced, and that the distinction is one of cell evolution rather than the presence of two essentially dissimilar types of growth. Morphologically the two growths in this case are clearly distinct, and I have not seen in the sections evidence of intermediate stages. One would never for a moment suspect when looking at the two growths that they were from the same organ, much less that they were closely approximated.

#### THE IMPORTANCE OF REMEMBERING THAT NOT ALL PULMONARY PHYSICAL SIGNS ARE THOSE OF TUBERCULOSIS.

DR. H. A. HARE: The physical signs of early tuberculosis of the lungs were well studied and thoroughly understood long before the bacillus of Koch was discovered. There is a tendency to regard all abnormal physical signs in the lungs as indicative of tuberculosis unless the symptoms are so indicative of other affections that tuberculosis is manifestly ruled out. I am not seeking to make light of the importance of the early diagnosis of tuberculosis, but rather to point out that some cases are not tuberculous although thought to be so, and to emphasize the fact that there are no physical signs to be found in the chest which cannot be produced by lesions which are not tuberculous in origin. This point is put into concrete form by the citation of several cases. Nearly all of the cases of dullness and absence of vesicular breathing at the base of the lungs result in the diagnosis of "consolidation" or "pneumonia." In severe bronchitis, in whooping cough, and after operations in the upper abdominal segment, the real state is often atelectasis. The bronchial lymph nodes are often the cause of marked

physical signs. My point is not to deny that they are often tuberculous, but to state that they may be infected by other organisms than the tubercle bacillus and that many physical signs thought to have their origin in the lung tissues are due to partial bronchial occlusion by pressure. The x-ray is valuable in clearing up this question. My object in this paper is not only to insist that we be always on guard against the ever present possibility of pulmonary lesions, but also to emphasize the fact that every subacute or chronic pulmonary lesion presenting impaired resonance, prolonged expiration and, for a short time, febrile movement is not tuberculosis. We must be careful that the predominance of tuberculosis does not cause us to commit the patient to the constant woe of worry and alarm until we have excluded the conditions which produce physical signs in the chest similar to those of tuberculosis.

## DISCUSSION.

DR. JAMES TYSON: Dr. Hare's paper is very timely. It happens with me every year to meet with cases of this kind. In addition to the fact of the untold misery from the supposition that a person has tuberculosis, the matter of statistics is very seriously interfered with. Also, the curability of consumption is exaggerated by such interpretations as those which Dr. Hare has narrated to us. Many of these doubtful cases are cleared up by examination for bacilli.

DR. HARE, closing: I did not deal with the matter of bacilli because I think we all recognize that if we wait until we have the presence of bacilli in the sputum, we often wait until the disease has advanced so far that we can do little for the patient. Of course, if bacilli are found, even if there are no physical signs, one has the right to say that the patient has tuberculosis. I think that the skilled physician must discover the disease before the microscope discovers it for him.

## THE TREATMENT OF PERSISTENT PAIN OF ORGANIC ORIGIN IN THE LOWER PART OF THE BODY BY DIVISION OF THE ANTERO-LATERAL COLUMN OF THE SPINAL CORD.

By DR. WILLIAM G. SPILLER and DR. EDWARD MARTIN.

DR. SPILLER: Tumor of the cauda equina usually causes intense and persistent pain, and in some instances complete transverse section of the spinal cord has been suggested for the relief of suffering. I proposed, in place of so grave an operation, that division merely of the antero-lateral column on each side, if necessary, in the thoracic region, might be employed in severe cases, as the fibers of pain are contained within this region of the cord. The operation should not cause paralysis of motion, of the bladder or of the bowels. It probably would produce ataxia and impairment of temperature sensations in the lower limbs. A case of tumor of the lower part of the spinal cord with intense pain in the lower limbs under my care is described. In this case Dr. Martin divided the antero-lateral column by a transverse cut on each side in the thoracic region. The man was paralyzed in the lower limbs before the operation. Following it and until the present time he has suffered very little from pain in the lower limbs, and never complains of pain unless he is moved in bed or is asked concerning his condition, when he replies that he sometimes has pain.

## EXPERIMENTAL WORK ON THE FUNCTION OF THE ANTERO-LATERAL COLUMN OF THE SPINAL CORD.

By DR. WILLIAMS B. CADWALADER and DR. J. E. SWEET. (By invitation.)

## Book Review.

*Education: How Old the New.* By JAMES J. WALSH, M.D., Ph.D., Litt.D. New York: Fordham University Press. 1910.

In the essays gathered under this somewhat uneuphonious title, the author undertakes to redemonstrate the time-old thesis that there is no new thing under the sun. As an axiom this proposition seems so incontrovertible as to need no proof; but when it is cited as a theorem in support of a scholastic corollary contention, arguments in its favor run the risk of appearing as special pleading.

The variety of subjects treated appears externally considerable,—the first modern university, ideal popular education, cycles of feminine education and influence, the church and feminine education, the medical profession for six thousand years, the college man in life, medieval scientific universities, origins in American education, university medical schools, New Englandism. But all are merely aspects of an underlying basic theme, the dogma that the essence of education is the old education of conservatism and authority. Experiment, invention, discovery, must in an enlightened world be recognized, but must be correlated with and subordinated to the ancient dominating principle.

Dr. Walsh is a master of style, and for those who have the pleasure and delightful privilege of his personal acquaintance, his written words conjure up the even greater charm of voice and manner and fascinating eloquence. Under this spell, though at first disposed to differ in argument, one is inclined to go even further than Agrippa, and be persuaded, if only academically and for the occasion. Even so, one might be tempted to take issue with some of the strictures against New Englandism, and to query, if there were so many Celts among the Puritans, how modern New England could have failed to be so great as it is supposed to consider itself. Granting that New England is now shackled by insular provincialism, it should be remembered that the West is "New England unchained," and that Prometheus, who brought fire to man, unbound may win a new flame to enlighten the world.

Perhaps, after all, the new is still the old, yet the old bottles will not always suffice to contain the new wine. In education, in civilization, in human progress, there is no greater fallacy than that whatever is right, unless it be that what is new must be wrong. However old the new education may be, there is a time when we must

"Ring out the old, ring in the new,  
Ring out the false, ring in the true."

For one of the sublimest promises of time to mankind is not that the old order shall prevail, but that there shall be a new heaven and a new earth.

# THE BOSTON Medical and Surgical Journal.

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## MEETINGS OF TWO STATE MEDICAL SOCIETIES.

THE one hundred and thirty-first annual meeting of The Massachusetts Medical Society will be held in Boston during the coming week. On Tuesday, June 11, the section meetings will be held at the Massachusetts General Hospital. At 9.30 A.M. will be the combined meeting of the sections of surgery and of medicine. There will be papers by Dr. James Marsh Jackson, of Boston, on the medical aspects, and by Dr. Joseph Ransohoff, of Cincinnati, on the surgical aspects, of intestinal adhesions and ptoses, and by Dr. Percy Brown, of Boston, on "The Roentgen Rays in the Diagnosis of Alimentary Aberrations." At noon will be the annual meeting of the council. In the afternoon, at the meeting of the section of surgery, there will be a symposium on traumatism of the cranium and spinal column, followed by papers on obstetric and orthopedic subjects. At the meeting of the section of medicine there will be papers on the treatment of syphilis, on the filterable viruses, and on the uses of the x-rays in medicine. At the meeting of the section of tuberculosis, there will be papers of timely interest in that special field. In the evening Dr. David L. Edsall, of St. Louis, will deliver the Shattuck Lecture in John Ware Hall, at the Boston Medical Library, on "The Clinical Study of Respiration."

On Wednesday, June 12, the annual meeting of the society will be held in John Ware Hall at 9.30 A.M. After the business meeting there will be addresses by Dr. Charles C. Foster, of Cambridge; by Drs. Abner Post, John Lovett Morse and Beth Vincent, of Boston, and by Drs. Milton J. Rosenau and George H. Wright, of Brookline. At noon the annual discourse will be delivered by

Dr. Walter E. Fernald, of Waverley. In the afternoon there will be demonstrations and exhibits at the Tufts College Medical School. There will also be baseball games between teams from the various district societies in competition for the perpetual challenge cup, now held by the Norfolk District Medical Society. In the evening the annual dinner will be served in Mechanics Hall at 7 o'clock. This is the first occasion on which the dinner will be held in the evening. It is expected that this change, and the attractive nature of the program offered at the several meetings, will result in a large and enthusiastic attendance.

During the coming week will be held also the one hundredth annual meeting of the Rhode Island Medical Society. This occasion marks not only the centennial anniversary of the founding of the organization but the completion and formal opening of the new Rhode Island Medical Library. This building, which will furnish a permanent home for the society as well as for its library, has been erected at a total cost of \$50,000, most of which has been given by the medical profession of the state. The celebration will begin on Wednesday, June 12, with an outing at Rocky Point, where there will be athletic games and a shore dinner. On the evening of this day, the new library will be officially opened with appropriate exercises and a reception. On Thursday, June 13, the annual meeting of the Rhode Island Medical Society will be held at 3 P.M. There will be an oration by Dr. Abraham Jacobi, of New York City, and an address by Dr. F. T. Rogers, president of the society. The annual dinner will be held at 6.30 P.M. This centennial celebration marks the closing of an important epoch in the history of the society. At great personal sacrifice the members have collected a valuable library and erected for it a new and ample building. Its dedication is not only the fruition of their labors, but the beginning of new and extended possibility of service in the cause of medical education.

## TUBERCULOSIS SANATORIA.

EARLY in the present year the British chancellor of the exchequer appointed a committee to report on the preventive, curative and other aspects of the tuberculosis problem, in such manner as would guide the government and auxiliary organizations in making or aiding provision for the management of this disease in sanatoria, or otherwise. Though the instructions given by the

treasury contained no reference to the national insurance scheme, "the latter was of course in the mind of every member."<sup>1</sup> And the committee have issued an interim report<sup>2</sup> because (it would seem) the provisions of the National Insurance Act of 1911, regarding "sanatorium benefit," will become effective July 15, 1912, from which date insured persons will be entitled to claim the various kinds of assistance included under the statutory term "sanatorium benefit." All these matters are related to the National Insurance scheme, in which our English colleagues are vitally interested, and in which they have our cordial sympathy. We may here, however, note only those aspects of the interim report which (apart from the exigencies of British politics) bear upon the general subject of the prevention and cure of tuberculosis.

Sanatoria for the tuberculous have now for more than a score of years past — indeed we may say for a generation — been building in this country, as elsewhere. Many (though their number form a minority of those who have considered the subject) have doubted the utility of these institutions. The interim report is emphatically favorable to the sanatorium system of treatment. This does not mean that all patients should be thus confined; such a view were of course utterly untenable. It is probable that all the institutions now existing in civilization could accommodate no more than 10% of the tuberculous. The remaining 90% must perforce be treated in their homes, and by their own doctors; and these patients will oftentimes recover in such circumstances if they come for consultation fairly early in the disease, and if they will but follow directions implicitly and faithfully. One sees therefore how vastly important it is that the general practitioner shall be skilled in the diagnosis of incipient tuberculosis, and shall have masterful control of the situation.

The sanatorium, besides the cures which it effects, has educational and disciplinary advantages of inestimable value. The patient may not be able to find place in such an institution for the whole term of his cure. Perhaps he can be accommodated for only three or at most six months; or his means will not permit him to remain longer. Such a one is educated and disciplined in the prophylaxis and cure of his disease. What this means, every physician who has tried to make such patients (especially young women and young men) conform to his directions during "home

treatment" will appreciate. In the sanatorium the patient gets the prophylaxis habit; and the following out of the cure becomes routine with him. At the end of three months, then, he has the knowledge and the necessities of his situation fairly well impressed upon him; and he may thereafter achieve his own cure outside the institution. Nor should the like values of the tuberculosis dispensary be lost sight of; these institutions should moreover serve as receiving houses, as centers of diagnosis and as general information bureaux, as well as agencies for treatment.

Recommendations of the English interim report which may well find application among us are: The early establishment of an adequate number of tuberculosis dispensaries, grants in aid of which should as far as possible be given only where they will eventually form constituent parts of complete schemes. In framing such schemes regard should be had to all the existing and available authorities, organizations and institutions, with a view to avoiding waste by overlapping, and to obtaining co-operation and inclusion within the scheme proposed. Special pains should be taken to secure the co-operation of medical men in the working of the schemes, particularly as to the early detection of the disease and its home and dispensary treatment. Special attention should be given to securing suitably qualified and experienced physicians for senior appointments in connection with established institutions, since the ultimate results of the treatment must depend largely upon the medical and administrative qualifications. In erecting or adapting institutions, local authorities and philanthropists should avoid pretentious and extravagant buildings, and should aim for simplicity. As the chances now afforded students in general hospitals for observing tuberculosis are insufficient, advantage should be taken of the extended opportunities the proposed scheme will afford.

A word regarding hospitals for the tuberculous: By such a hospital we here mean an institution for those unfortunate consumptives whose recovery is not expected. From the communal standpoint the hospital is more essential than the sanatorium, because the advanced consumptive, oftentimes so pathetically helpless that he is unable to dispose properly of the billions of bacilli he daily emits, is a source of grave danger to his family and to his community. In all these matters, the recorded experience of other civilized nations should be observed and utilized in determining the provisions to be made for tuberculosis in our own communities.

<sup>1</sup> Brit. Med. Jour., Edit., May 4, 1912.

<sup>2</sup> Interim Report of the Departmental Committee on Tuberculosis. Brit. Med. Jour., May 4, 1912, p. 1021.

# PROPOSED NATIONAL HOSPITAL BUREAU.

ACTING as chairman of the Hospital Bureau Committee of the American Hospital Association, Dr. S. S. Goldwater, superintendent of the Mount Sinai Hospital, New York, in co-operation with the surgeon-general of the United States Public Health and Marine-Hospital Service, has caused to be introduced before the federal Congress at Washington, D. C., "a bill empowering the Public Health and Marine-Hospital Service to establish in Washington a hospital bureau which, when organized and developed, will bear to hospital administration and development in this country a relationship similar to that which now exists between the United States Department of Education and public education in the several commonwealths."

The full text of this measure provides: "That the Public Health and Marine-Hospital Service is hereby authorized to collect, receive, maintain and classify in such a manner as may be made accessible to federal, state, municipal and other hospital authorities and institutions of learning, plans of hospital or dispensary buildings, descriptive matter relating to their equipment, their rules and regulations, periodical and other reports of individual institutions, reports of committees or individuals engaged in the investigation of local and other special hospital problems, and other matters and literature relating to hospitals, sanitariums, asylums, homes for convalescents, dispensaries, nursing associations and other agencies for the care of the sick, and to convey the information thus obtained to said federal, state, municipal and other hospital authorities and institutions of learning under such rules and regulations as shall be promulgated by the Secretary of the Treasury."

In relation to this bill, Dr. Goldwater has said:

"Any hospital administrator will cheerfully testify to the need of such a bureau as is here proposed. The bureau would become a center for the collection and dissemination of information which all who are engaged in hospital work could utilize. In this connection it should be borne in mind that, judged by the standards which prevail in the leading European centers of population, or even by those which have been established in the more highly developed parts of our own country, practically two thirds of the United States is as yet sadly lacking in hospital facilities. As against 500 hospital beds per 100,000 of population in the European capitals, and 350, approximately, in New York State, there are states where there have been provided thus far only 10, 15 or 20 beds. These figures may be verified by exam-

ining the Report on Benevolent Institutions of the United States Census.

"One by one the communities of the country are awakening to their hospital needs. It would be the function of the National Hospital Bureau to enlighten them as to needs, ways and means; to promote hospital development along the lines of scientific management. The bureau would perform this service not only for state and municipal governments and for voluntary hospitals throughout the country, but would serve as well the three departments of the Federal Government which build and maintain hospitals on a large scale, namely, the Army, the Navy and the Public Health and Marine-Hospital Service."

As it stands, this proposed measure seems undoubtedly good. Before advocating its passage unreservedly, however, it might be well to consider its possible relation to the changes provided by the Owen bill, now pending before Congress, to which we referred editorially in last week's issue of the JOURNAL. The desirability of a National Hospital Bureau seems unquestioned. If, however, the work of public health administration is to be reorganized, it should be considered whether the establishment of such a bureau should more properly come before or after or in conjunction with the proposed erection of a new cabinet department of public health. This is a matter for expert legislative decision.

## WILBUR WRIGHT AND ANTITYPHOID INOCULATION.

THE death of Wilbur Wright, on May 30, represents another probably needless sacrifice of a valuable life to preventable disease. Mr. Wright himself attributed his infection with typhoid to some fish which he ate in Boston on a recent visit to this city. But as his symptoms began on the day after the ingestion of the fish, and as his disease developed rapidly from that date, it is probable that the infection was acquired at some previous time and its origin forgotten during the usual succeeding incubation period. Whatever its source and occasion, it might in all human and scientific probability have been avoided, or the attack at least mitigated and made non-fatal, had he previously availed himself of the protection afforded by antityphoid inoculation.

Mr. Wright was a young man of great achievement and greater promise, who deserves to be ranked with Watt, Fulton, Whitney, Morse, Bell, Edison, Selden, Marconi and other great persistent inventive geniuses of the age. The airship may never be of as universal and indispensable human utility as the telegraph, the



telephone and the electric light, or as serviceable a vehicle of progression as those propelled by steam on land and sea. But the science of aviation is yet in its beginnings; its possibilities are as yet undeveloped and perhaps unimagined. To Wilbur Wright and to his brother Orville belongs the credit for inventing the biplane and thereby first truly solving the fundamental problem of mechanical flight. Their work was pursued throughout with the deliberate scientific accuracy of the experimental method intelligently applied.

Wilbur Wright survived the professional risks of his occupation by judicious employment of the wise discretion which is the better part of all courage. It is unfortunate that he should not equally have adopted a safeguarding precaution which modern medical science has placed within the reach of all. Death loves a shining mark; but though many lives are not as distinguished as his, each man's is as precious to himself and perhaps to some few others. The continuous sacrifice of life and health and happiness to typhoid infection is largely preventable by protective inoculation. The example of Mr. Wright should be an instigation to members of our profession, and to individuals among the laity, by their personal advocacy and adoption of this measure to hasten the education of public opinion which shall make its employment universal.

#### MEDICAL NOTES.

**PORTUGUESE CONGRESS OF PEDAGOGY.** — At the third Portuguese Congress of Pedagogy, recently held in Lisbon, a series of nine recommendations was adopted, including the extension of school medical inspection and the establishment of a central institute of physical education.

**HARVEIAN FESTIVAL.** — On Friday of last week, May 31, the one hundred and thirtieth annual festival of the Harveian Society was held in the hall of the Royal College of Physicians, London. The Harveian Oration was delivered by the president, Dr. Charles Watson MacGillivray, on "Some Memories of Old Harveians, with Notes on their Orations."

**THE AMERICAN DERMATOLOGICAL ASSOCIATION.** — At the thirty-sixth annual meeting of the American Dermatological Association, held at St. Louis, Mo., May 23, 24 and 25, 1912, the following officers were elected for the ensuing year: President, Dr. Isadore Dyer, of New Orleans; Vice-President, Dr. Howard Montgom-

ery, of San Francisco; secretary and treasurer, Dr. James MacFarlane Winfield, of Brooklyn. The next meeting of the association will be held at Washington, D. C.

**A CENTENARIAN.** — John Pennell, who died recently at Steubenville, Ohio, was locally reputed to be one hundred and two years of age. He is said to have attributed his long life to supreme contentment with his lot. The example of his longevity should afford to others an additional motive for the cultivation of this laudable Christian virtue.

#### MEETINGS OF NATIONAL SOCIETIES IN BOSTON.

— The American Psycho-Pathological Society met in Boston, May 29, under the Presidency of Dr. Adolph Meyer, of Baltimore. The American Neurological Association also met in Boston on May 30, 31, and June 1, under the Presidency of Dr. Wm. N. Bullard, who unfortunately through illness was not able to preside. The meeting was largely attended and many papers of importance were read. One session was held at the new Psychopathic Hospital and the details of its organization described. Dr. Pearce Bailey of New York was elected President for the ensuing year.

**FRENCH VITAL STATISTICS FOR 1911.** — Report from Paris on May 28 states that the recently published annual report of the French Minister of Labor on the vital statistics of France for 1911 shows that during this year there were in that country 742,114 births and 776,983 deaths. This is the lowest annual number of births ever recorded in France, and shows an excess of 34,869 deaths over the total births. The number of marriages in France in 1911 were 307,788, the number of divorces 13,058, the latter being a marked increase over those of the previous year.

**AERIAL HUMAN PARTURITION.** — Report from Paris on May 31 states that the International Congress on the Laws of Aviation, then in session in that city, has drawn up and adopted a complete series of regulations to govern the conduct of aviators under all conceivable circumstances. Among these provisions is the following:

"In the event of a birth occurring on an air craft, the pilot must enter the event in a log-book and notify the authorities at the first place where he descends."

There is something exquisitely humorous in this ordinance and in the serious Gallic thoroughness which thus undertakes to provide for the possible

legal aspects of aërial human parturition. We shall await with interest news of the first birth occurring in an airship.

**ENDEMIC FRAGILITAS OSSIIUM IN THE ARDENNES.** — In a recent issue of *Biologica* are reported the results of some observations by Dr. d'Hôtel, of Bois Terron, France, on endemic *fragilitas ossium* among the inhabitants of Singly, a village in the Ardennes, with a population of two hundred and fifty and an annual death-rate of 1.5%. Rickets, scurvy, goitre, arthritis, osteomyelitis, tuberculosis and typhoid are rare in this community, and the average duration of life is high; but 10% of the inhabitants and many animals suffer spontaneous fracture every year. This singular situation Dr. d'Hôtel attributes to the local drinking water, which by the conditions of its filtration through the soil is deficient in lime salts. He believes it might easily be remedied by judicious calcic and phosphatic medication of the soil.

**PROPOSED MEMORIAL TO FRANCIS DAVIS MILLET.** — The proposal to establish a memorial to the late Francis Davis Millet, the painter, who was lost in the wreck of the *Titanic*, recalls the fact, not generally known, that he and other members of his family, by generous contributions, in large part supported the Millet Sanatorium at East Bridgewater, Mass., named in honor of his father, Dr. Asa Millet, who for many years was a well-known practitioner in that town. It is said that at times Mr. Millet actually impoverished himself in order that the work of this institution in the treatment of tuberculosis might be maintained. In commenting upon this, an editorial in a recent issue of the *New York Sun* says:

"The noble benefaction of Mr. Widener, of Philadelphia, in memory of another of the *Titanic's* lost, suggests the thought that whatever else may be done in honor of the name of Francis Davis Millet the thing which he himself would have most desired is the perpetuation of this unselfish work by the adequate endowment of a Millet Memorial Hospital in the Massachusetts town."

**ROYAL SOCIETY OF MEDICINE.** — An item in the issue of the *Medical Press and Circular* for May 22 describes the dedication by King George V, on May 21, of the new building of the Royal Society of Medicine, London.

"The new house, which is of the renaissance type, will present to the public an outward and visible sign of the fusion of some fifteen of the

principal medical societies which took place in 1907, in which year the charter of the Royal Society of Medicine was signed by the king. The present handsome pile, occupying an imposing site at the corner of Henrietta Street and Wimpole Street, stands on an area of nearly 10,000 sq. ft., and consists of a basement, a ground floor and three additional floors. On the ground floor is a tiled vestibule with two meeting halls opening out of it, one accommodating 500 and the other 150 persons. The remainder of the floor is given up to patients' rooms and offices. The library on the first floor, with nearly 100,000 volumes, stretches the whole length of the building, and is 110 ft. long, 28 ft. wide and 19 ft. high. In an annex is the periodical room. The central portion of the second floor is given up to a council room, with two smaller committee rooms opening out of it. There is also a tea and conversation room. The third floor contains a museum, a room fitted and equipped for examining specimens and for histological work and a smoking room. In the basement are dressing-rooms and storage for 250,000 volumes. The wreaths and tablets on the façade are intended for the names of distinguished members of the society, and will be filled in later as may be decided upon by the council."

**NATIONAL CONFERENCE ON INDUSTRIAL DISEASES.** — The first session of the second National Conference on Industrial Diseases, which was announced in last week's issue of the *JOURNAL*, was held at Atlantic City, N. J., on Tuesday of this week, June 4. The presiding officer was Hon. Charles P. Neill, United States Commissioner of Labor. The special topic under consideration was the investigation of industrial diseases. In his paper on "The Function of Hospitals, Clinics and Exhibits in the Prevention of Occupational Diseases," Dr. Richard C. Cabot, of Boston, said:

"Public opinion is beginning to demand that hospitals and doctors alike shall do something to abolish the need of their own existence. Industrial diseases, such as lead poisoning and heat-cramps, pass through the hospital and out again like threads in a loom."

Among those who took part in the discussion which followed were Dr. David L. Edsall, of the Harvard Medical School; Dr. William F. Snow, of the California Board of Health; and Dr. E. E. Pratt, of the New York Factory Investigating Commission.

At the second session of the conference, on June 5, which was held in conjunction with the American Medical Association, Dr. W. Gilman Thompson, of the Cornell University Medical College, read a paper on "The Classification of Industrial Diseases."

"Although manufacturers almost universally profess ignorance of the existence of lead poisoning," he said, "in New York State Dr. John B. Andrews has compiled data of sixty cases of death from this cause occurring within the two years 1909 and 1910, and I have personally collected data from only two hospitals and one dispensary in New York City of over three hundred cases of lead poisoning so serious as to demand hospital treatment, and sometimes to produce permanent disability."

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, June 4, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 30, scarlatina 19, typhoid fever 12, measles 199, smallpox 0, tuberculosis 80.

The death-rate of the reported deaths for the week ending June 4, 1912, was 15.50.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, June 1, 1912, was 209, against 213 the corresponding week of last year, showing a decrease of 4 deaths, and making the death-rate for the week, 15.13. Of this number 99 were males and 110 were females; 201 were white and 8 colored; 134 were born in the United States, 71 in foreign countries and 4 unknown; 43 were of American parentage, 143 of foreign parentage and 23 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 34 cases and 2 deaths; scarlatina, 17 cases and 1 death; typhoid fever, 16 cases and 0 deaths; measles, 149 cases and 4 deaths; tuberculosis, 80 cases and 15 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 18, whooping cough 0, heart disease 27, bronchitis 3. There were 17 deaths from violent causes. The number of children who died under one year was 48; the number under five years, 67. The number of persons who died over sixty years of age was 52. The deaths in hospitals and public institutions were 88.

**MILK FINES IN BOSTON.** — Before the Boston municipal courts last week, eight dealers of this city were fined \$10 each for having in their possession milk not up to the standard required by law.

**PENALTY FOR ILLEGAL PRACTICE OF MEDICINE.** — Before a Boston municipal court last week, a resident of this city was fined \$300 for undertaking to practice as a physician without being legally registered as such.

**AMERICAN CLIMATOLOGICAL ASSOCIATION.** — The annual meeting of the American Climatological Association will be held at Hartford, Conn., on Monday, Tuesday and Wednesday of next week, June 10 to 12.

**DECREASE OF MEASLES IN BOSTON.** — Last week there was a notable decrease in the number of cases in Boston of measles, which recently has been extensively prevalent in this city: only 120 cases and 4 deaths of the disease were reported as against 191 cases during the previous week.

**FLANDERS MEMORIAL LIBRARY.** — The Lawrence (Mass.) General Hospital has established the Frank B. Flanders Medical Library. This was made possible by the gift of Mrs. Flanders, which included the valuable library of the late Dr. Frank B. Flanders, of Lawrence. Dr. Flanders was a member of the hospital staff for thirty years, its secretary for fifteen years and for twelve years the senior surgeon of the hospital.

**FUNDS FOR NORTH SHORE BABIES' HOSPITAL.** — On Saturday of last week, June 1, the following sums were raised by popular contribution in four Essex towns for the benefit of the North Shore Babies' Hospital at Salem, Mass.: in Beverly, \$700; in Danvers, \$300; in Peabody, \$600; and in Salem, \$1,400. The total of \$3,000 is to be applied partly to pay the current expenses of the institution, partly to reduce its mortgage of \$2,400.

**JOINT CONFERENCE ON INFANT MORTALITY.** — At the Boston Dispensary last week a joint conference was held between the Boston Board of Health, the Milk and Baby Hygiene Association and the Instructive District Nursing Association to formulate plans for concerted action in dealing with the problems of infant mortality during the coming summer.

#### NEW YORK.

**RECENT HOSPITAL BEQUEST.** — By the will of the late Mrs. Cornelia Storrs of North Salem, Westchester County, N. Y., the half of her residuary estate, said to amount to about \$25,000, is left to the New York Skin and Cancer Hospital.

**POST-MORTEM CÆSAREAN SECTION.** — A living child was recently delivered by Cæsarean section at the Fordham Hospital some minutes after the death of the mother. For several days the infant, who was premature, was kept in an incubator, but is now being nursed by a patient who lost her own child, and is reported to be doing well.

**EXHIBITION OF ACCIDENT PREVENTION METHODS.** — On the first day (May 20) of the seventeenth annual meeting of the National Association of Manufacturers at the Waldorf-Astoria, there was an exhibition of accident prevention methods, illustrated by moving pictures, with explanatory addresses by men prominent in accident prevention work. Four films were shown, and the first, entitled "Cause and Effect of Industrial Accidents," was followed by an address on Workingmen's Compensation by F. C. Schwedtmann, chairman of the committee on industrial indemnity insurance. The second film showed safety devices in a representative factory plant; the third, a factory fire drill; and the fourth, a life-boat drill on an ocean liner.

**A SINISTER SOCIETY.** — The "Excellent Order of the Knights and Ladies of Ehud," a society composed of left-handed persons, was organized on May 19 at Orange, N. J., through the efforts of the Rev. Dr. William A. Frye, pastor of the Methodist church of that place, who preached a sermon to the knights and ladies. The order is named from Ehud, who is mentioned in the Bible as a left-handed Benjaminite whom the Lord raised up to deliver the children of Israel, and its object is, in simple language, to make left-handed people feel that they are just as good as, if not superior to, other folks.

**METHODS OF DEALING WITH COMMUNICABLE DISEASES.** — The Department of Health of the city of New York has recently published a compendious "handbook of information regarding the routine procedure of the division of communicable diseases," which describes the scope of work of the division and its methods of dealing with tuberculosis, typhoid, meningitis, poliomyelitis, diphtheria, tetanus and other notifiable infections. This manual should prove of value to health officers in smaller communities.

**PROPOSED MEMORIAL TO DR. O'LOUGHLIN.** — In the issue of *Science* for May 24 is announced a proposition to endow a pathologic laboratory at St. Vincent's Hospital, New York, in memory of the late Dr. William Francis Norman O'Loughlin, senior medical officer of the *Titanic*. This seems a worthy and enduring memorial to a gallant sailor and physician.

**HEALTH CONDITIONS IN THE STEEL TRADE.** — At the annual dinner of the American Iron and Steel Institute on May 17, President Schiller,

of the American Tube Company, a member of the Committee on Welfare of the institute, spoke of the work that is being done in ameliorating conditions in the steel trade generally, and Dr. Thomas Darlington, formerly Health Commissioner, who is now secretary of this committee, read a paper on "The Enforcement of Health Conditions."

**CHARITABLE GIFTS BY ISIDOR STRAUS.** — In the will of Isidor Straus, of New York, who was lost on the *Titanic*, no bequests are made to charities, but in a letter to his sons he left directions, which have now been carried out, for the distribution of \$185,000 among certain philanthropies in which he and his wife, who perished with him, were interested. The largest of these gifts, \$100,000, is to the Educational Alliance. The names of the other beneficiaries have not been made public, but it is stated that the sum assigned in each instance is an approximate capitalization of the annual contribution of Mr. and Mrs. Straus to the hospital or other charity.

**SUBSTITUTE FOR FIREWORKS.** — On the evenings of May 24, 25 and 26 there was exhibited a sample illumination on Riverside Drive such as will probably be determined upon for the city in general on the night of the Fourth of July. For the extent of four blocks the Drive blazed with innumerable electric lights, many of which were inclosed in varicolored Japanese lanterns, and the effect was extremely beautiful. One private house was also brilliant with chains of lights extending from roof to ground. This illumination was planned to demonstrate what could be done in providing a suitable substitute for the usual fireworks display and to promote a safe and sane celebration of the day. If the plan is adopted it is purposed to have all the parks and public buildings in the city illuminated, and as the Edison Company has offered to supply the electric current free, it is estimated that it can be carried out at a cost of \$75,000; which, it is stated, would not be greater than a fireworks display.

**WORK OF PELLAGRA COMMISSION.** — On May 27 the Thompson-McFadden Pellagra Commission, made possible through the liberality of Col. Robert M. Thompson, of New York, and John McFadden, of Philadelphia, started from New York to spend five or six months in South Carolina in an exhaustive study of pellagra, making its headquarters at Spartansburg, in the center

of a district where the disease has been alarmingly prevalent. The commission consists of Drs. Joseph F. Siler of the Army and Philip E. Garrison of the Navy, who for three or four years have been working in the government investigation of pellagra, and Dr. Ward J. MacNeal, assistant director of laboratories in the New York Post-Graduate Medical School and Hospital, who has been a member of the Illinois State Pellagra Commission. At Spartansburg these will be joined by two experts who for some time have been on the field working under the direction of Dr. L. O. Howard of the United States Department of Agriculture. The work of the commission is to be carried on in co-operation with the wards and laboratories of the Division of Tropical Diseases of the New York Post-Graduate, and from time to time suitable cases will be sent on for clinical study and treatment.

**INDEPENDENCE DAY CELEBRATION.** — For the third consecutive year Herman Ridder has been appointed chairman of Mayor Gaynor's Fourth of July Committee, which is again arranging for a "safe and sane" celebration of Independence Day, and he has issued an appeal to the public for subscriptions amounting to \$50,000. One hundred thousand dollars is required in all, but it is expected that the board of aldermen will appropriate half the sum.

**LEBANON HOSPITAL ASSOCIATION.** — The eighteenth annual meeting of the Lebanon Hospital Association was held at the hospital, in the Bronx, on May 13, and in the president's report attention was called to the new dispensary addition just completed. The foundation of this building, it was stated, was made sufficiently strong to bear the weight of five additional stories which it is in contemplation to construct later. At the meeting resolutions were adopted deploring the loss by the *Titanic* disaster of Mr. and Mrs. Isidor Straus, Benjamin Guggenheimer, Emil Taussig and Henry B. Harris, all of whom were liberal contributors to the hospital.

**THE TENEMENTS OF TRINITY PARISH.** — In the "Year Book" of Trinity Parish, a volume of five hundred pages just issued, is published the first report of Miss Dinwiddie, former secretary of the Tenement House Committee of the Charity Organization Society, who two years ago was engaged as a social welfare secretary for the parish. She states that there are on Trinity's land 147 houses not owned by the corporation, and over these it has not immediate control.

With regard to the 870 families occupying the 365 houses owned by the corporation she finds that "Trinity's landlordship is being exercised from the standpoint of consideration of the welfare of the tenant, but is under conditions that present certain peculiar difficulties." With the exception of ten model tenements, none of the houses were built by the corporation, having come into its possession at the expiration of long leases, and frequently in bad repair. Some such dwellings have been torn down, and the rest are being thoroughly renovated. The light and ventilations are now very satisfactory and the rents are relatively low. The report mentions an interesting social experiment, the Lodging House for Homeless Men, started last winter. Two hundred cots were installed in the building on Varick Street formerly occupied by Trinity Hospital, but disused for several years, and during the season 19,000 lodgings and 39,000 meals were provided. Among the charitable institutions mentioned in the "Year Book" towards whose support Trinity regularly contributes are St. Luke's Hospital and the New York Home for Incurables.

**DAMAGES FROM FUMIGATION, NOT TOWN CHARGES.** — In 1911 there was an epidemic of scarlet fever in Otisville (an unincorporated village) and vicinity, in the township of Mount Hope, Orange County. The common school in the village was ordered closed by the town board of health, and later the books were ordered burned by the board or the health officer. The cost of fumigating and of burning the books was paid by the town board, and now the school district has presented a claim for the value of the books destroyed, which belonged to the pupils, and intends to present a claim for the books destroyed in the district library. The opinion of the attorney-general was asked as to whether the town board was authorized to refund to the school district and the pupils the value of the books belonging to each. Having quoted the sections of the Public Health Law having some bearing upon the case, he goes on to say: "The damages occasioned here I deem to have arisen from the public necessity. The board was acting governmentally and was exercising police power delegated to the municipality by the state. The case is similar to those where buildings have been demolished to prevent the spread of fire. It has long been the law in this state that municipalities, except where liability has been assumed by positive enactment, are not liable for such de-

struction arising from public necessity. Particularly applicable to this case is the statement of Judge Dillon in his work on Municipal Corporations, where he says, at page 2,898: 'Upon similar principles, where the officers or employees of the city, acting for the protection of the public health, destroy private property to prevent the spread of contagion, there is no liability on the part of the city for the property so destroyed, in the absence of a statute directing that compensation shall be made.' I am, therefore, of the opinion that the town board may not properly audit and allow these claims."

**ANNIVERSARY OF THE GERMAN POLIKLINIK.** — On the occasion of the twenty-ninth anniversary the Board of Trustees gave a dinner to the staff of the German Poliklinik on Saturday, May 17, in the Café Boulevard. Fifty-four of the men attended and Dr. Ludwig Weiss presided. Of the trustees present there were Dr. Ludwig Weiss, president; Dr. H. J. Boldt, vice-president; Dr. Louis Haupt, treasurer; Dr. S. Breitenfeld, secretary; and Drs. Von Ramdohr, Mathews, Busche, Pfister, Kreuder, Schwerd, De Kraft, Rottenberg and Benneche. The president, acting as toastmaster, related the history of the institution, telling how, from a small beginning, a dispensary treating 75,000 patients annually and of strong financial strength had developed. This Dr. Von Ramdohr said was due to the facts that the institution was run by physicians and in part to the great work that the ladies' auxiliary had accomplished under the able administration of its honorary president, Mrs. Ludwig Weiss, who was given a vote of thanks. Dr. Boldt spoke of the advancement of the institution in the way of erecting a hospital. Drs. Breitenfeld, Kaufman, Stone and Epstein spoke of the fine spirit existing among all the physicians and of the harmony that prevailed. Dr. Bassler said that the great wealth of clinical material the institution controlled in the eleven branches of medicine was its most valuable asset, and that this should be employed for instruction, and drew attention to the fact that under the charter possessed this could be done as an undergraduate or post-graduate school or in affiliation with one of the teaching institutions.

### Current Literature.

#### MEDICAL RECORD.

MAY 25, 1912.

1. GRADWOHL, R. B. H. *The Luetin Test for Syphilis. A Preliminary Report of Forty-Four Cases.*
2. SWINBURNE, G. K. *Gonorrheal Arthritis: Methods of Diagnosis and Treatment.*

3. MANGES, M. *A Case of Typhoid Fever with an Unusually Long Duration of Seventy-Eight Days of the Primary Attack.*
4. COON, C. E. *Auto-intoxication the Direct Result of Mechanical Defects which Produce Stasis in the Colon.*
5. NILES, G. M. *Sitophobia: A Digestive Phantasm.*
6. TINKER, M. B. *Surgical Treatment of Exophthalmic Goitre. Some Internist's Views and Surgical Experience.*
7. BALDWIN, J. F. *True Diverticulum of the Cecum. A Unique Case.*
8. MAVERICK, A. *Seasickness and the Use of Adrenalin.*

#### NEW YORK MEDICAL JOURNAL.

MAY 25, 1912.

1. BRILL, A. A. *Hysterical Dreamy States, Their Psychological Mechanism.*
2. CABOT, H. *The Training of the Urologist.*
3. HOLMES, B. *Research in Psychiatry.*
4. CAMPBELL, C. M. *The Application of Psycho-analysis to Insanity.*
5. WOOLSEY, G. *Diagnosis and Treatment in the Surgery of the Stomach.*
6. KNAPP, M. I. *Organacidia Gastrica, Diagnosed by Inspection.*
7. NASCHER, I. L. *Old Age in Its Medico-legal Relations.*
8. SILL, E. M. *Results Obtained from the Addition of Lactalbumin to Modified Cow's Milk in the Feeding of Infants.*
9. PEDERSEN, V. C. *A Case of Burn of the Urethra with Lunar Caustic, Followed by a Complete Cast of the Urethra.*

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

MAY 25, 1912.

1. \*SHERMAN, W. O. W. *Operative Treatment of Fractures. Report of Fifty-Five Cases in which Lane Bone Plates and Screws were Employed.*
2. HAMILTON, A. McL. *A Case of Asthenobulbospinal Paralysis (Myasthenia Gravis).*
3. \*GRAYSON, T. W. *"Gas on the Stomach."*
4. \*MORROW, L., AND BRIDGEMAN, O. *Gonorrhea in Girls: Treatment of Three Hundred Cases.*
5. CARTER, H. S. *Abdominal Pain as an Initial Symptom in Typhoid, with some Statistics on Its Causation.*
6. GARCEAU, E. *New Occluding Ureteral Catheter and Cystoscopes for Functional Renal Tests.*
7. FRANK, M. *Medicine as Depicted in English Literature before the Eighteenth Century.*
8. LOVETT, R. W. *The Atrophy of Muscle and Bone Resulting from Joint Disease, Injury and Fixation.*
9. KEIDEL, A. *A Simple Bleeding-Tube for Obtaining Specimens for the Wassermann Reaction.*
10. BATLER, E. A. *End Results of Sixty-Six Platings. Remarks on the Treatment of Fracture of the Long Pipe Bones.*
11. HOLZER, C. E. *A Rare Case of Lymphatic Leukemia.*

1. Sherman's article on the operative treatment of fracture is exceptionally clearly and well stated. Essential points are as follows: There is no evidence to justify the assertion that the presence of a foreign body is the exciting cause of rarefying osteitis. There would be fewer cases of non-union if the faulty approximation were early recognized and corrected. It will be found necessary to remove the plates and screws in the majority of compound fractures, the plate causing sufficient irritation to allow of the persistence of a sinus. The question of what cases should and what should not be operative must be based not on stated rules, but on personal experience and judgment.

3. Grayson believes that slight eructation of gas (air) after meals is perfectly normal, it generally being ingested air which is expelled. True fermentation may be present in stasis, but this is comparatively rare. It is unusual accumulation instead of excessive production of gas in the stomach which gives rise to this annoying symptom. When this symptom exists, the patient is usually nervous



and has too much acid. (Give him alkalies, proper diet and general treatment.) Disease of neighboring organs may cause a full feeling wrongly interpreted as gas on the stomach.

4. Morrow and Bridgeman found in treating 300 cases of gonorrhea in young girls that the most efficacious treatment consisted in applying through the speculum biweekly, first, 25% silver nitrate to the cervix and 10% to the vagina, followed by an application of petrolatum, and the second time by a 25% paste of iodoform in glycerine. This treatment was not improved upon by the use of a vaccine. For little girls and virgins, local cleanliness and the use of gonococcus vaccine gave the best result. There is, however, a tendency to recurrence when the vaccine is left off. The vaccine is of the greatest value in cases with joint complications. The authors speak strongly against the douche as a useless method of treatment. [E. H. R.]

## ANNALS OF SURGERY.

MARCH, 1912.

1. \*GIBBON, J. H. *Indications for and Against the Operative Treatment of Simple Fractures.*
2. \*HITZROT, J. M. *The Treatment of Simple Fractures: A Study of Some End Results.*
3. COTTON, F. J., AND BRICKLEY, W. J. *Luxation of the Ulna Forward at the Wrist (without Fracture).*
4. \*HOMANS, J. *Osteomyelitis of the Long Bones.*
5. \*GIFFIN, H. Z. *The Diagnoses of Diaphragmatic Hernia.*
6. \*MAYO, W. J. *Management of the Opening in the Transverse Mesocolon in Completing the Operation for Posterior Gastrojejunostomy.*
7. DOUGLAS, J. *Sarcoma of the Small Intestine.*
8. DRUMMOND, G. *Inversion of Meckel's Diverticulum.*
9. MARK, E. G. *Primary Sarcoma of the Male Urethra.*
10. BALFOUR, D. C. *A Combination Abdominal Retractor.*

1. While Gibbon shows that persistence in conservative methods and rational after-treatment may frequently obviate operative interference in the treatment of simple fractures, he advocates operation in certain cases. The situation of the bone or type of fracture may be sufficient indication for operation (fracture of patella with separation, many fractures near a joint, some comminuted fractures, fractures whose fragments catch muscle, tendon or nerve, and all fractures in which fair reduction has not been obtained after the exhaustion of all rational non-operative means). The contra-indications to operation may lie in the fracture itself (disease and infection), in the patient's general condition (chronic alcoholism, syphilis and the extremes of age) or in the operator and his surroundings (lack of special mechanical skill and necessity of strict asepsis).

2. In order to compare the end-results of non-operated and operated simple fractures, Hitzrot has traced 712 cases treated at the New York and Bellevue hospitals. The series includes humerus, 302 cases (surgical neck, 141; at neck with dislocation of head, 4; shaft, 17; lower end, 140); radius, 29 (head, 19; neck, 10); ulna, 47; radius and ulna, 91; carpal scaphoid, 14; femur, 53 (immediately below trochanter, 2; middle third, 40; lower end, 11); tibia and fibula, 85; and Pott's fracture, 64. These various groups are considered with reference to age, type of fracture, deformity before reduction, method of reduction, after-treatment and end result (function and deformity). Operative measures include simple open reduction without internal fixation, the excision of portions of bone, the removal of fragments, fixation by chromic catgut through drill holes, fixation by suture of fascial expansions and periosteum, fixation by plates and in one case by heteroplastic intramedullary insert. Hitzrot believes that the method of treatment which offers the patient the most satisfactory functional result with least danger is the method of election in the great majority of simple fractures, that non-operative reduction most nearly fulfills these requirements, and that operation must be considered not the method of election, but the method of selection for a carefully chosen group of cases. [This valuable contribution contains much detail which cannot be presented adequately in abstract. T. W. H.]

4. Homans analyzes 94 cases of osteomyelitis of the long bones treated at the Children's Hospital, Boston. He finds that the process originates in the ends of the diaphyses — rarely as a periostitis (only 8 bones of 113). Weight-bearing bones are most frequently attacked. The lower end of humerus and upper end of radius were not involved in any case. The term "general infection" is used to indicate a condition in which at least two thirds of shaft becomes necrotic. A tabulation of the incidence of disease in the upper and lower ends and mid-shaft of various bones and the percentage of general infections from these sites of origin shows the upper end of femur the most common seat of primary focus (24) and the least common origin of general infection (12.5%). A negative Roentgen plate taken during the first few days of an acute infection is not taken seriously, and a positive plate at this stage is not accepted as an index of the full extent of the lesion. In following the course of the disease, however, the ray is considered invaluable. Early or primary operation demands only full uncovering of infected medulla for drainage without doing unnecessary damage to the periosteum or endosteum. Early complete resection of shaft is not advisable. Total resection later should be reserved for cases of total necrosis. These operative indications are deduced from the results of the cases in this series and illustrative cases are given with excellent radiograms.

5. Giffin reports in detail a case of diaphragmatic hernia upon which he made the diagnosis before operation. The hernia contained stomach, nearly all of transverse colon, the spleen, twelve feet of jejunum, and the tail of the pancreas. He considers the clinical symptoms, physical signs, and radiographic and fluoroscopic findings. Considerable attention is given to differentiation between diaphragmatic hernia and elevation of the diaphragm (eventration of Pétit). Pneumothorax of pulmonary and gastric origin, hydro- and pyo-pneumothorax, temporary elevation of the diaphragm, large pulmonary cavity in lower lobe, and subdiaphragmatic pyopneumothorax are considered. The importance of securing history of severe trauma in making diagnosis is emphasized. [Giffin has collected a bibliography of 187 references which he offers to any one particularly interested in a study of the condition. T. W. H.]

6. W. J. Mayo has found that fastening the margins of the opening in the transverse mesocolon to the gastro-jejunal suture line, in completing the operation for posterior gastrojejunostomy, by several sutures, and obliterating raw surfaces by neatly tucking the edges underneath, to be an excellent and suitable procedure in the large majority of cases. He advises against this procedure in subjects with much fat in the transverse mesocolon, owing to the danger of adhesions and suggests in such cases the old practice of suturing the edge of the opening to the posterior wall of the stomach  $\frac{1}{4}$  inch from the anastomosis suture line. [T. W. H.]

## APRIL, 1912.

1. BROWN, A. J. *Cephalic Tetanus.*
2. \*POOL, E. H. *Treatment of Heart Wounds.*
3. \*ROBINSON, S. *Pneumectomy: Its Possibilities.*
4. SPEESE, J. *Tumors of the Male Breast.*
5. \*ELIOT, E. (CORSCADEN AND JAMESON). *The Clinical Features and Treatment of Acute Perforating Gastric and Duodenal Ulcer.* (To be continued.)
6. BECKMAN, E. H. *The Repair of Hernie from the Peritoneal Side of the Abdominal Wall.*
7. \*EISENDRATH, D. N. *Congenital Malformations of the Ureters.*
8. DA COSTA, J. C. *Operation for Aneurysmal Varix of the Popliteal Vessels.*

2. Pool reports a case of successful cardiorrhaphy for knife wound one and one half inches long on left border of heart, somewhat posteriorly, and one and one-half inches above apex. Light ether-anesthesia. Closure of pericardium. Rubber tissue drain to, but not into, pericardium. Serous ooze for forty-eight hours. Drain then removed. General condition excellent four and one-half months after operation. He advocates exploration in suspected wounds of heart, light ether anesthesia,

fine vaselined silk on curved intestinal needles for heart suture and interrupted catgut for pericardium. Positive pressure should be used with care till hemorrhage is controlled. Where differential pressure is used or speed is important or pneumothorax present, a transpleural exposure with long intercostal incision is best; for it gives free exposure, is rapid, and causes little hemorrhage. Extrapleural exposure is rarely possible; for pleura usually is opened in heart wounds. It is warranted where differential pressure is not available, in the absence of pneumothorax, with adequate assistance and patient in relatively good condition. To Peck's tabulation of 159 cases (*Ann. Surg.*, 1909, 1, 101), Pool and Robbins have added 77, total, 236). Epitomes of these 77 cases are given.

3. Robinson considers the obstacles to success of pneumectomy, usual reduced resistance of patient, nerve irritation, loss of heat, post-operative aspiration, infection or septic absorption. He advocates operation in two or more stages. The first stage must at least include opening pleura plus either pneumotomy for drainage or temporary mass ligature to lobe to be excised. The second stage consists of freeing adhesions to render vessels and bronchus at hilus accessible. If attended by laceration of lung and hemorrhage, pack away infected lobe and wait a week before excision. If readily freed, amputation may be done at same operation. The third stage becomes necessary where freeing adhesions at second operation was difficult. In amputating, hemostasis and air-tight closure are facilitated by leaving some lung tissue at root of lobe. A successful case is reported. First operation, W. M. C., thoracotomy, pneumotomy, freeing adhesions. Second operation, C. A. P., extended thoracotomy with drainage of empyema cavity. Third operation, S. R., freeing and packing away infected lobe. Fourth operation, S. R., gauze pack removed; pneumectomy. Fifth operation, S. R., closure of two of four bronchial fistulae.

5. In a general consideration of symptoms and signs Eliot emphasizes the following: Increased resistance of costal arch, auscultatory detraction of exudate in the flanks, Shoemaker's percussion method, and the infrequency of shock. Shock is considered no contra-indication to immediate operation. The differentiation from acute appendicitis is given in much detail. Rapid, careful search of both sides of the stomach is advocated before closure of abdominal wall to avoid overlooking multiple perforations or ulcers. Simple suture of a perforation seemed to be followed by as complete cure as was accomplished by its excision. Six of nine cats which survived the removal of one fourth to two thirds of circumference of duodenum with subsequent closure showed no, or only slight, dilatation of stomach and no, or only slight, constriction of duodenum. Local irrigation as a method of cleansing the peritoneal cavity adjacent to the closed perforation is preferred, and rapid rather than complete lavage in cases of general peritonitis is advocated. The drainage of subphrenic spaces is considered. The immediate advantages of supplementing the suture of perforation with gastro-enterostomy are regarded at best very slight and not at all likely to add materially to the patient's recovery. Gastro-enterostomy is thought not to insure the stability of the perforation suture. It is thought not to protect against subsequent perforation. That it diminishes the probability of subsequent hemorrhages from coexisting ulcers is regarded untenable. That it increases the rapidity with which coexisting ulcers heal is regarded as conjectural. That it permits earlier feeding by mouth is denied.

7. After epitomes of 4 previously reported personal cases, a fifth is described in detail: a cretin of sixteen in whom a suprapubic tumor persisted after catheterization. Laparotomy showed marked left ureteral dilatation and hydronephrosis. Right less marked. Cystotomy through a suprapubic extraperitoneal incision showed a mucous-covered prominence nearly filling the bladder, proceeding from region of left ureteral orifice and concealing the right orifice and internal meatus. This was divided transversely and both openings sutured to vesical mucous membrane to hold open. Probably the first intravesical ureterostomy for congenital cystiform protrusion. Subsequent infection of left kidney. Nephrectomy on account of double spiral twist of ureter. Death in three months

from uremia. Autopsy showed no thyroid, ureterostomy patent, distal sacculatation obliterated, right ureter with two incomplete spiral twists and a constriction and a right hydronephrosis and chronic pyelitis. The clinical picture of this condition varies. The most prominent feature of the case may be an abdominal tumor, either hypernephrosis or sausage-shaped, extending from the costal arch downward; a protrusion of the lower end of the ureter into the bladder; or a clinical picture of renal infection. Some cases remain latent throughout life. The origin is undoubtedly a persistence of fetal conditions (twist, constriction, valves and tortuosities). [T. W. H.]

MAY, 1912.

1. \*BLOODGOOD, J. C. *Estimation of Vital Resistance of Patient with Reference to Possibility of Recovery.*
2. \*FINNEY, J. M. T. *The Wiring of Otherwise Inoperable Aneurysms.*
3. HIBBS, R. A. *A Further Consideration of an Operation for Pott's Disease of the Spine.*
4. \*ELIOT, E., JR. (CORSCADEN AND JAMESON). *The Clinical Features and Treatment of Acute Perforating Gastric and Duodenal Ulcer. (Concluded.)*
5. \*MARTIN, F. *Intestinal Obstruction Due to Gallstones.*
6. HUDSON, W. H. *A New Decompression Operation for the Brain.*
7. LYLE, H. H. M. "Le Rhumatisme Tuberculeux" (Poncel).

1. Bloodgood divides operations into two classes. First, those for the relief of conditions which of themselves are producing at the time little or no depression to the individual (ordinary inguinal hernia, well retained by truss). Second, those for the relief of conditions which of themselves are depressant (strangulated hernia). Under pre-operative treatment are given the factors to be considered; general condition, local condition, and the operation for relief. Does the operation promise immediate and permanent cure, and does the general condition bring the operation within lines of safety? Nitrous oxide and oxygen anesthesia is preferred. The use of all known methods in making diagnosis and earlier operation on emergency cases is urged. Emphasis is laid upon due regard for the psychic condition of the patient and the amount of rest and fresh air necessary before operation. No alcohol, the starvation of the very fat (except diabetics) and catharsis not later than thirty-six or forty-eight hours before operation are advised. A plea is made for scientific investigation of the best pre-operative treatment for all patients, especially those handicapped, and more important for different kinds of handicap. Under treatment during operation the following questions are raised; the anesthetic, added local anesthesia, starting anesthetic on operating table or in patient's room, securing confidence of patient, operation in several stages, and postponing operation if patient is very nervous. The blood pressure apparatus is considered the most important factor for estimating safety during operation and condition directly after operation. Bloodgood follows the pressure during the operation and, when it falls below 100, gives saline. If the pressure is low at the end of the operation, the patient is left on the table and given saline until the condition warrants moving to bed. All stimulants are considered contra-indicated, and a long operation without shock-producing procedures is preferred to a short operation with the same. Under post-operative treatment the following questions are raised; the position of the patient, method of giving water and inducing rest and sleep, mouth feeding, stomach washing, stimulation of renal function, and the treatment of distention, acidosis, cardiac failure, phlebitis and post-operative neuroses. [This is an important contribution. It is practical surgical science. T. W. H.]

2. Finney's paper is based upon an experience of 23 cases, of which reports are given. Case 8 was wired twice and Case 17 three times. The only aneurysm which offers any reasonable expectation of cure by wiring is that of the sacculated variety, especially of traumatic origin. The immediate risks of the operation are interference with heart valves and emboli. The remote risks are emboli or sloughing from too strong a current, sepsis, and giving way of aneurysmal wall from shunting direction

of current. The immediate results are diminution of pain and pulsation. The technic is given with many helpful details. The wire used has contained 75 parts of copper and 1,000 of silver. Usually ten feet have been introduced and an electric current of not over 75 milliamperes for at least one hour has been employed. In the majority of cases 10 to 40 milliamperes have been used. Finney states that most cases were benefited and believes a few have been cured. He emphasizes the importance of absolute rest for several months after wiring and suggests the use of calcium salts before and after operation.

4. Eliot, Corscaden and Jameson conclude their exhaustive consideration of acute perforating gastric and duodenal ulcer. They append a bibliography of 134 references and give many tables and case epitomes. They have found 6 cases of remote perforation after simple suture and 1 after suture plus gastro-enterostomy, but have found 15 cases of perforation following unperforated ulcers treated by gastro-enterostomy. They have assembled 38 cases of persistence of symptoms after simple suture which came to subsequent gastro-enterostomy. Two cases were not benefited by the second operation. Eliot doubts if all of these cases would have survived a gastro-enterostomy at the time of suture. He believes that gastro-enterostomy should be done in addition to suture of perforation in cases with advanced or virulent peritonitis only when suture closes lumen of gut. Gastro-enterostomy by button should be practiced only in the gravest of such cases; 977 cases of gastric and duodenal ulcer are tabulated according to site with reference to cures, improvements, unimproved, deaths and reoperations. No fatality was found in cases with simple suture without gastro-enterostomy which could be ascribed to the omission of the anastomosis. Eliot gives personal communications from several surgeons expressing their opinions regarding supplementing simple suture of perforation by gastro-enterostomy (Krogus, V. Eiselsberg, Bretano, Petren, Noetzel, Shoemaker, Martens, Kroiss, Körte, Moynihan, W. J. Mayo, Peck, Blake, Woolsey, Hawkes, McWilliams and Hartwell).

5. Martin's article is based upon an experience of 3 cases. Case histories are given at length. The third case presented an anastomosis from ulceration between lower ileum and appendix and a similar anastomosis between two coils of ileum near the appendix. The relative frequency of this type and other types of intestinal obstruction is given by Fitz as 1:15; Gibson, 1:17; and Lichtenstern, 1:28. Bloodgood found only 1 in 280 cases of intestinal obstruction occurring at Johns Hopkins, Union Protestant and St. Agnes hospitals. Convoisier gives the average age as fifty to seventy and the usual site as lower ileum (28 to 52 cases). The mortality is from 44-69%. Martin's mortality was 0. [T. W. H.]

#### SURGERY, GYNECOLOGY AND OBSTETRICS.

MAY, 1912.

1. BECK, E. *Stereoscopic Photography with Natural Colors.*
2. RICHARDSON, M. H. *Surgical Diseases of the Pancreas.*
3. \*BREWER, G. E. *Some Observations upon the Surgery of the Biliary Passages.*
4. \*BINNIE, J. F. *Surgical Pathology of the Stomach and Duodenum.*
5. OCHSNER, A. J. *Co-ordination of Under-Graduate and Post-Graduate Teaching of Clinical Surgery with a View to Securing Efficiency.*
6. \*TAIT, D. *Fibrous Atrophy of the Salivary Gland; with Especial Reference to the Treatment of Salivary Fistula.*
7. \*ROBINSON, S. *An Apparatus for Thoracic Surgery under Intratracheal Insufflation or Positive Pressure. Also for Ether Anesthesia by Mask, Intrapharyngeal, Intratracheal and Intrabuccal Methods.*
8. FRANK, J. *Secondary Parotitis Following Operation for Appendicitis.*
9. SEOM, E. J. *Report of Ninety-Three Cases of Circular Valve Gastrostomy.*
10. BRICKNER, W. M. *Rupture of the Pyosalpinx as a Cause of Diffuse Purulent Peritonitis.*
11. CULLEN, T. S. *Umbilical Tumors Containing Uterine Mucosa or Remnants of Müller's Ducts.*

#### 12. HESSERT, W. *Compiled Report from the Membership of the Chicago Surgical Society on Certain Questions Relating to Appendicitis.*

3. Brewer's article is a very interesting recital of the histories and causes of death in twenty-six cases out of 175 operations on the biliary passages. This frank admission of the causes of failure is a most desirable and instructive way of teaching the subject and should be more often imitated.

4. Binnie states that wounds of the stomach heal well, that the stomach is a wonderful tolerant of foreign bodies and that hemorrhages occur without demonstrable lesions. Hemorrhage, erosions and ulcers can be produced by toxins in the circulation. Acids favor but do not cause, ulceration in the stomach, duodenum and jejunum.

6. Tait states that atrophic sclerosis of the parotid gland follows obstruction of Steno's duct. Its extent is in direct proportion to the degree and duration of obstruction. Infection will hasten the hyperplastic process. Distention of the duct may persist long after the gland has undergone almost complete fibrous atrophy. Fistulae may be permanently cured by double ligation and section of the duct as close as possible to the gland.

7. Robinson's article on a new apparatus for intratracheal insufflation and other positive pressure methods is extremely well stated, clear and well illustrated. The apparatus has many merits, especially that of comparative simplicity and adaptability to various methods.

[E. H. R.]

#### DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT. No. 16.

APRIL 19, 1912.

1. \*ROSIN, H. *Pathology and Treatment of Cardiac Asthma.*
2. KOESSEL, H. *Relations Between Human and Bovine Tuberculosis.*
3. MÖLLERS, B. *Specific Antibodies in the Serum of the Tuberculous.*
4. \*BAGINSKY, A. *The Contagious Period of Scarlet Fever.*
5. SMIRNOFF, P. P. *Salvarsan in Relapsing Fever.*
6. NAGAYO, M., AND NAKAYAMA, N. *Stenosis or Obliteration of the Left Iliac Vein at Its Junction with the Vena Cava.*
7. ESCHENBACH, M. *Suture of Anal Sphincters.*
8. LOEWY, A., AND SOMMERFELD, P. *Metabolic Findings in a Child with Myxedema.*
9. ROSENBERG, O. *Jaundice with Inherited Syphilis.*
10. HAHN, R. *Hemorrhagic Nephritis in an Infant with Inherited Syphilis.*
11. ANDRONESCU, E. *Salvarsan in Inherited Syphilis.*
12. RAVE, W. *Röntgenotherapy in Pruritus Ani.*

1. Rosin states that the treatment of cardiac asthma must be rapid and vigorous if it is to give relief. He therefore recommends subcutaneous or intravenous injection of remedies, in preference to administration by mouth. He believes camphor in oil and caffeine to be the most useful drugs in the treatment of an attack, and recommends that venesection be used more freely than it is at present. He believes that the prognosis is grave in every attack.

4. The author believes that patients with scarlet fever should be isolated longer than the customary six weeks. In forty-five cases in his experience, children discharged from the hospital fully cured on the forty-second day later infected members of the household to which they returned. The author believes that patients discharged from a hospital after scarlet fever should be sent to a special convalescent home.

[C. H. L., JR.]

No. 17. APRIL 25, 1912.

1. \*EWALD, C. A. *Duodenal Ulcer.*
2. \*BIER, A. *Duodenal Ulcer.*
3. SOMMER, R., AND DESSAUER, F. *The Improvement of Electro-Medical Diagnosis and Treatment.*
4. HARNACK, E. *Collargol and Colloidal Silver.*
5. KRISIUS. *Investigation of the Efficiency of Tuberculin Treatment in Ocular Tuberculosis.*
6. SOWADE, H. *A Simple Method of Isolating the Spirochetes of Syphilis.*
7. HART, C. *Plethora Vera.*

8. SCHMIDT, H. *The Wassermann Reaction in Serum Obtained After Death.*
  9. ALBANUS. *The Technic of the Use of Radium in the Treatment of the Mouth, Nose, Throat, Larynx.*
  10. BLUMENTHAL, A. *Tumors in the Temporal Region.*
  11. SIFFWL, A. *Infusion of Physiological Salt Solution.*
- 1 and 2. The subject of duodenal ulcer is discussed from the medical and surgical point of view by Ewald and Bier. Both state that the affection is less common in Germany than in the United States. Bier has operated but twenty-three times in five years in the Berlin University Surgical Clinic, and even less in private practice.
- The authors explain the disparity between their statistics and those of American and English authors by stating that there is not only greater incidence in this country, but also, in consequence, greater accuracy in diagnosis. Ewald comments on the lack of knowledge concerning the cause of the lesion, especially the subacute and chronic forms. American and English authors, he says, agree that there is only one form of treatment, viz., surgical; but he believes that early cases should be treated medically. [C. H. L., Jr.]

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 17.

APRIL 23, 1912.

1. \*SCHREIBER, E. *Neosalvarsan.*
2. \*LÜDKE, H. *Serum Treatment of Typhoid.*
3. WIDMER, C. *The Psychic Factor in Mountain-Sickness and in Fatigue from Climbing.*
4. \*FRANCKE, K. *The Laws of Deformity of the Legs, and Knock Knee in Women.*
5. V. BRUNN, M. *The "Gas-Ether Method," the Simplest Method of Narcosis with Ether.*
6. BAUMANN. *Chlorelhyl Intoxication and Narcosis.*
7. GEISSLER, W. *Luminal, a New Hypnotic for Subcutaneous Use.*
8. ROST, G. *Salvarsan for Frambesia.*
9. HESSE, G. *Diagnosis and Treatment of Fistula of the Chin.*
10. STEIMANN. *The Forcep Hand.*
11. SCHWARTZ. *Humans with Tails.*
12. KLAUSER. *Unilateral Drum-Stick Finger from Old Luxation of the Shoulder.*
12. GOETZE, O. *Raskin's Method of Staining Diphtheria Bacilli.*
13. SCHOAL. *Exostoses on the Upper Surfaces of the Calcaneus.*
14. ROSENKRANG, E. *By-Effects of Hormonal.*

1. Neosalvarsan is a product closely related to salvarsan but having various advantages over the older drug. It was prepared by Ehrlich and has been tested by Schreiber in a large series of patients. The advantages of neosalvarsan are stated as follows: That it is readily soluble in water; that its reaction is absolutely neutral; that it is less toxic and can, therefore, be given in larger doses; that it is at least as effective as salvarsan; and that it is more suitable for intramuscular injection than is salvarsan.

2. The writer describes his methods of producing a serum for typhoid which has antitoxic and bactericidal properties, and reports his results in animals and humans. It appears that when given early, i. e., before the twelfth day of the disease, the serum had a pronounced beneficial effect in that in most cases the temperature came down rapidly by lysis and the patients recovered entirely in a few days. In the later stages critical drops of temperature were observed, but it was not clear that the course of the disease was shortened, although symptoms improved.

4. Franke gives some interesting observations on the development of the legs and concludes that activity is an important factor in producing straight legs, whereas a quiet life favors knock knees. [G. C. S.]

No. 18. APRIL 30, 1912.

1. \*WINTERNITZ, W. *Intermittent Claudication.*
2. RÜHLE, A. *Observations on the Central Nervous System of Animals After Poisoning with Methyl-Alcohol.*
3. ROHRBACH. *Histological Repair of Syphilides After Salvarsan.*

4. \*LOSEY, A. *Endocarditis Lenta and the Acute Form Produced by Streptococcus Viridans.*
5. NÜRNBERGER, L. *Staphylococcus Sepsis Following Small Superficial Suppurations.*
6. HASEBROEK, K. *Significance of the Shoulder Girdle for Anomalies of Posture and Spinal Curvature.*
7. WEGNER. *The Typical Fracture of the Malleolus Lateralis Tibiae.*
8. INELSCH, F. O. *Total Dislocation of the Spine in the Lower Cervical Region: Prognosis and Treatment.*
9. STURBERG, H. *Codeonal and Codeinum Diethyl-barbituricum.*
10. HIRSCH, E. *Pituitrin in Midwifery.*
11. STROSCHE. *Schlindler's Iatra in Practice.*
12. GRÖN, K. *Melanoderma After Late Dermatitis from Salvarsan.*
13. JOHN, M. *Treatment of Typhoid with Pyramidon.*
14. SCHINDLER, C. *Treatment of Gonorrhea with a Jelly-Like Mass as a Vehicle for Drugs.*
15. WACHLET, H. *Diagnosis of Ectopic Testicle.*
16. SPOERL. *A Variation of the Usual Operation for Prolapse in Women.*
17. FRISCHBERG, D. *By-Effects of Hormonal.*
18. LEBMANN, M. E. *After-Treatment of Inoculated Persons.*

1. Winternitz emphasizes the value of physical therapy and exercise in the treatment of arteriosclerosis and especially for intermittent claudication. He says that by these means the circulation can be much improved in a short time and that the claudication may be cured.

4. Losey reports two cases of acute endocarditis produced by the streptococcus viridans, which as a rule causes a subacute but extremely fatal form of the disease. One of these cases recovered. The writer says that he has tried a great variety of methods of treatment without any success except that in this particular case much improvement followed the use of salvarsan. Although in other cases it has been ineffectual, he advises its further trial on account of the uselessness of other methods. [G. C. S.]

WIENER KLINISCHE WOCHENSCHRIFT. No. 20.

MAY 16, 1912.

1. \*V. EISLER, M., AND LAMB, M. *Determinations of Viscosity in Tuberculosis.*
2. \*SGALITZER, M. *Fistula Treatment with Beck's Bismuth Paste.*
3. ERDHEIM, S. *Bismuth Intoxication in Treatment by Beck's Method.*
4. SPITZMÜLLER, W., AND PETERKA, H. *The Heliotherapy of Surgical Tuberculosis and Scrofulosis.*
5. \*PULOWSKI, A. *A Case of Addison's Disease.*
6. MOHR, R. *The Effect of Hormonal on the Intestinal Movement.*
7. V. DECASTELLO, A. *Changes in the Adrenals after Röntgen Irradiation.*
8. PACH, H. *The Budapest Voluntary Life-Saving Society.*

1. From a series of 158 clinical observations, combined with animal experiments, the authors conclude in part as follows:

(a) In mild cases of tuberculosis, the determination of viscosity by Czépai and V. Torday's method shows no difference in viscosity coefficient (1.8 to 2.5) from that of well persons or those sick with other infections. Severe cases of tuberculosis, on the other hand, almost always show higher quotients, from 3 upwards. An exception to this rule is found by severe cases with suppuration, which have quotients lying between 2 and 3.

(b) In the diagnosis of tuberculosis, only a viscosity coefficient is of importance which reaches or exceeds 3.

(c) In prognosis, a low viscosity coefficient is to be regarded as of favorable moment in cases of well-established tuberculosis.

(b) The sera of tuberculous guinea pigs show on the average a higher viscosity than those of normal animals. Preliminary treatment of healthy animals with tuberculin has no effect on the viscosity.

2. Sgalitzer presents an exhaustive study of the present status of Beck's bismuth paste therapy, which he believes within certain limits and conditions is warmly to be

recommended in chronic fistulous bone processes and in fistulae of soft parts which do not lead into any body cavity.

5. Pulawski reports a case of Addison's disease in a girl of sixteen, who at necropsy showed tuberculosis of both adrenals, so-called status lymphatico-thymicus, hypoplasia of the circulatory and sexual organs.

[R. M. G.]

### Obituary.

#### OTTO LUDWIG ADOLF SEELIGMÜLLER, M.D.

DR. OTTO LUDWIG ADOLF SEELIGMÜLLER, who died on April 19, 1912, at Halle, Germany, was born in Naumburg on April 1, 1837. He received his academic education at the University of Leipzig, and studied medicine at Würzburg and at Halle, obtaining his doctorate from the latter institution on April 3, 1862, with a thesis on "Tumors of the Anterior Mediastinum." He immediately settled in the practice of his profession at the neighboring town of Nietleben, where he served as volunteer house physician at the local provincial insane asylum. In 1863 he was assistant in the medical clinic at Halle, and in 1864 studied neurology under Meynert at Vienna and Duchenne at Paris. In 1865 he returned to Halle where he continued as a general practitioner, but also pursued his special studies in nervous diseases.

On Sept. 12, 1876, Seeligmüller became docent in neuropathology at the University of Halle, writing an inaugural dissertation on "Traumatic Lesions of the Sympathetic Nerve System." In August, 1882, he was made professor extraordinary. In 1887 he published his "Textbook of Diseases of the Spinal Cord and Brain and of the General Neuroses." Other of his publications were on "The Paralysis of Childhood" and "Traumatic Neuroses." His standpoint on the latter subject was sceptical, and involved him in considerable polemic discussion. All his writings, however, are free from personal animus, and are marked by temperance, wholesome objectivity, a strong love of truth and a faculty of minute observation. He was also author of many minor works, among which may be noted his contributions on "Christian Science," "Right-Handedness" and "The Epilepsy of St. Paul." He was a member of the Imperial Academy of Natural Sciences, and of the medical societies of Dresden and of Halle.

As a teacher, Seeligmüller was distinguished by his elegant style, and by the profusion of illustrations which his wide professional experience and remarkable memory made possible. He was a man of scholarly temperament, with a rare gift for languages, and could write fluently in Latin and in Greek. Apart from science, his favorite studies were in history and literature, and he was himself a poet of no minor talent. He traveled widely, and the breadth of his knowledge and sympathy gave him peculiar power in dealing with both patients and students. His unusual personality made him one of the best known and most generally beloved among the older generation of physicians and professors at Halle.

### Episcellamp.

#### ANCIENT PHARMACY AND THERAPEUTICS.

At a recent meeting of the Newcastle-upon-Tyne Division of the North of England Branch of the British Medical Association, Mr. Sydney Dunstan, M.P.S., F.C.S., presented a paper on "Ancient and Modern Pharmacy." After sketching the history and character of the early herbalists, he referred to the Egyptian papyri in the British Museum which constitute the oldest known documents relating to pharmacy, and from which he quotes the following description of the diagnosis and treatment of "liver complaint."

"When thou findest one when eating, he feels a pressure in the bowels, and the stomach is swollen, feels ill while walking: looks at him when lying outstretched and if thou findest his bowels hot, and a hardening in the stomach, say to thyself, 'This is liver complaint'; then make a remedy according to the secrets of botanical knowledge, from nuts and dates pounded and mixed with water, the patient to drink on four mornings to purge his body, then after, if thou findest both sides of the bowels, namely, the right one hot and the left one cold, then say, 'That is bile'; look at him again, and if thou findest the bowels entirely cold, then say to thyself, 'His liver is cleansed and purified, he has taken the medicine, and the medicine has taken effect.'"

After commenting on these papyri, Mr. Dunstan continued:

"Superstitious notions in connection with medicine were not more apparent in those days than they were in any British herbal of three hundred or four hundred years ago. Charms, enchantments, amulets and all the armory of witchcraft and magic had been intimately mixed up with medicine and pharmacy in all countries and in all ages. Hermes and Solomon were famous among the early practitioners and teachers of magic, and it followed that those who made their living out of the superstitions of the people pretended to have their knowledge and practices from those great heroes of the past. Among some of the New Zealand natives, for example, it was believed that a separate demon existed for each disease, each of these demons having something that would please or frighten him, so that amulets, charms, etc., came into use. In North America the Indians attributed all diseases to one evil spirit only; consequently their treatment of complaints was all the same. The belief of the savage or untutored races in demons which caused disease was natural. It would be useless to relate at any length the number of silly superstitions which had existed in quite modern times, and existed at the present day." After referring to the perpetuation of Galen in "galenical" preparations, Mr. Dunstan continued, "Paracelsus and Culpepper, who lived at a much later period, also deserved a place among the masters of pharmacy. Paracelsus was born in 1493, and

was the first physician to put forward the doctrine that life processes were chemical — therefore, they must look to chemistry for remedies to cure disease. Culpepper, who was born in 1616, was also noted for his pharmaceutical skill and his cleverness in criticizing the first and second editions of the London *Pharmacopæia*. The College of Physicians was incorporated by charter in the reign of Henry VIII (1518), and the first London *Pharmacopæia* was introduced in 1618. That production did not err on the side of condensation; it comprised 1,028 simples and 932 preparations and compounds; 211 of these preparations had more than ten ingredients in each. Some of the items used were as follows: Worms, frog's spawn, fox's lungs (this was a popular remedy for asthma in the form of a syrup), blood of the badger, bull, cat, dog, goose, hare, man, bones of the hare, pig, stag, and the triangular bone of the human skull. 'Liquor cranii humani' was a highly prized remedy; it was prepared from unburied skulls, those of criminals for preference. The druggists in London sold skulls upon which had grown a little greenish moss because it resembled the moss which grows on the oak. These skulls mostly came from Ireland, where they frequently let the bodies of the criminals hang on the gibbet till they fell to pieces. The market price of skulls at that time varied in London from 8s. to 11s. each; those with plenty of moss on made fancy prices. Also used were coral, white and red, crabs' claws, crabs' eyes, crayfish, cuttlefish, excrements of the cow, horse, mouse, pigeon, sheep and wolf; powders of precious stones, pearls in particular; viper's flesh. Both in ancient and modern times vipers have been held in the highest esteem for their medicinal virtues; vipers' fat, vipers' wine, are used to this day in some remote parts of Britain. Vipers used in medicine were of the common variety, commonly known to-day as adders, *Vipera communis*. Quincy (1728) had great confidence in their virtues. He wrote:

"That they are Balsamic and greatly Restorative is confirmed by long experience, for we have many instances in Physical Histories of persons arriving at an healthful old age by their frequent use."

These researches of Mr. Dunstan into ancient pharmacy recall some of the marvelous prescriptions and therapeutic procedures recorded in the writings that have survived from the famous medieval medical school of Salerno. Most familiar of these is the Latin poem on hygiene entitled, "Regimen Sanitatis Salernitanum." In an old English translation of this work, called "The Schole of Salerne," is given the following prophylactic remedy against seasickness.

"He that would crosse the sea must a few dayes before hee take ship mingle the sea water with his wine. This is a remedy for them that are rich; but if it be a poor man, then he must drinke sea water onely, that he may the easier eschew casting. The reason hereof is because the sea water is salt, and with its salteneesse it closeth

the mouth of the stomach, and thereby avoydeth casting or perbreaking."

One cannot help wondering whether to those of future centuries our therapeutics will seem as primitive as does that of the past to us.

#### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, MAY 25, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	3	—
Chicago.....	—	—	Waltham.....	—	1
Philadelphia.....	—	—	Brookline.....	—	—
St. Louis.....	—	—	Chicopee.....	—	6
Baltimore.....	—	—	Gloucester.....	—	—
Cleveland.....	—	—	Medford.....	—	—
Buffalo.....	—	—	North Adams.....	6	2
Pittsburg.....	—	—	Northampton.....	4	4
Cincinnati.....	—	—	Beverly.....	—	—
Milwaukee.....	—	—	Beverly.....	4	2
Washington.....	—	—	Leominster.....	4	1
Providence.....	—	—	Attleboro.....	1	0
Boston.....	197	52	Westfield.....	4	1
Worcester.....	47	17	Feabody.....	—	—
Fall River.....	38	14	Melrose.....	2	—
Lowell.....	48	23	Woburn.....	3	1
Cambridge.....	26	4	Newburyport.....	4	—
New Bedford.....	21	8	Gardner.....	4	3
Lynn.....	23	4	Marlboro.....	—	—
Springfield.....	24	8	Clinton.....	2	2
Lawrence.....	17	8	Milford.....	—	—
Somerville.....	26	5	Adams.....	5	1
Holyoke.....	13	5	Frammingham.....	—	—
Brocton.....	9	0	Weymouth.....	—	—
Malden.....	6	1	Watertown.....	3	0
Haverhill.....	7	3	Southbridge.....	1	2
Salem.....	—	—	Plymouth.....	5	0
Newton.....	8	—	Webster.....	—	—
Fitchburg.....	8	2	Methuen.....	—	—
Taunton.....	15	2	Wakefield.....	4	1
Everett.....	9	1	Arlington.....	1	—
Quincy.....	—	—	Greenfield.....	1	—
Chelsea.....	13	3	Winthrop.....	5	—

#### SOCIETY NOTICE.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.—The annual meeting will be held in the amphitheater of the Pathological Laboratory of the Massachusetts General Hospital, Boston, on Tuesday, June 11, 1912, at 2.30 o'clock. Preceding the meeting, the annual lunch will be served in one of the rooms of the Nerve Department on the third floor of the Out-Patient Building on Fruit Street, at two o'clock.

Annual reports and election of officers.

The following papers will be read and discussed. 1. "The Murder of Capt. Charles D. Wyman, of the Barge *Glendoncer*." (Illustrated with lantern slides.) George Burgess Magrath, M.D., Medical Examiner, of Boston. 2. "Did Death Result from Vanillin Poisoning?" William P. Stutson, M.D., Associate Medical Examiner, of Cummington.

OLIVER H. HOWE, M.D., Recording Secretary.  
COHASSET, May 28, 1912.

#### RECENT DEATHS.

DR. CAREY F. MARSHALL, who died on May 31, at Lynn, Mass., was born in Clarence, N. S., on April 30, 1855. After graduating from Acadia College, he studied medicine at New York University, from which he received the degree of M.D. in 1879. In 1882 he settled at Lynn, where he continued in the practice of his profession until his death. He is survived by his widow and by three sons, one of them a physician.

DR. E. M. NORWOOD, who died last week at Lexington, Ky., was born in Massachusetts in 1831. He was formerly a practitioner in New York City, and served throughout the Civil War as an army surgeon, but since that time had lived in retirement.

DR. M. W. ROBINSON, who died of heart disease last week at Noroton Heights, near Stamford, Conn., was born in 1838. He served throughout the Civil War both as a volunteer in the ranks and as a surgeon. At the time of his death, he was resident physician in the Soldiers' Home at Noroton.





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*Extracts from "The Effects of Soluble Digitoxin upon the Heart" (British Medical Journal, Jan. 13, 1912), by one of the best authorities on Bio-chemistry in England. Send for a reprint.*

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Lab. Bulletin  
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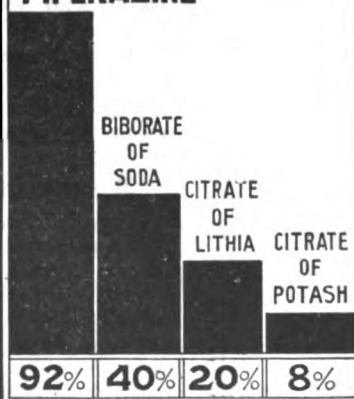
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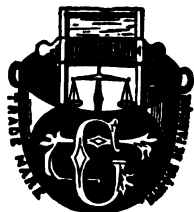
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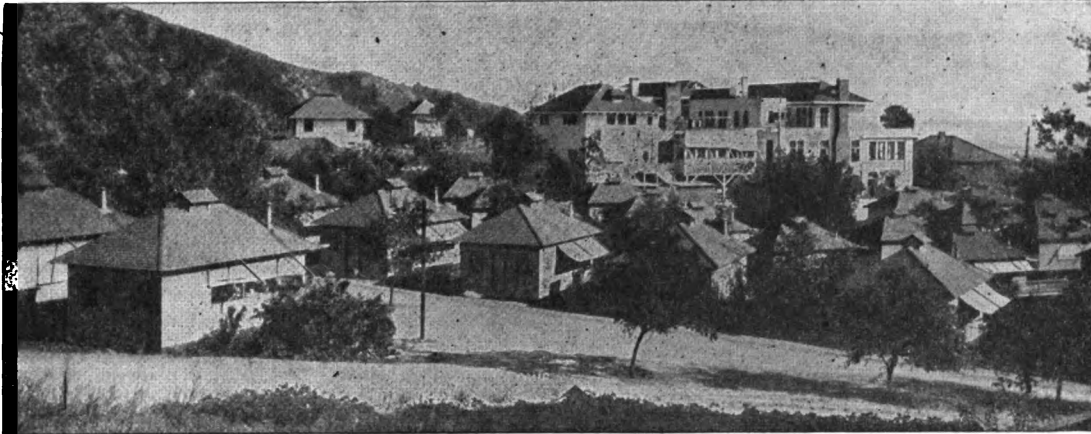


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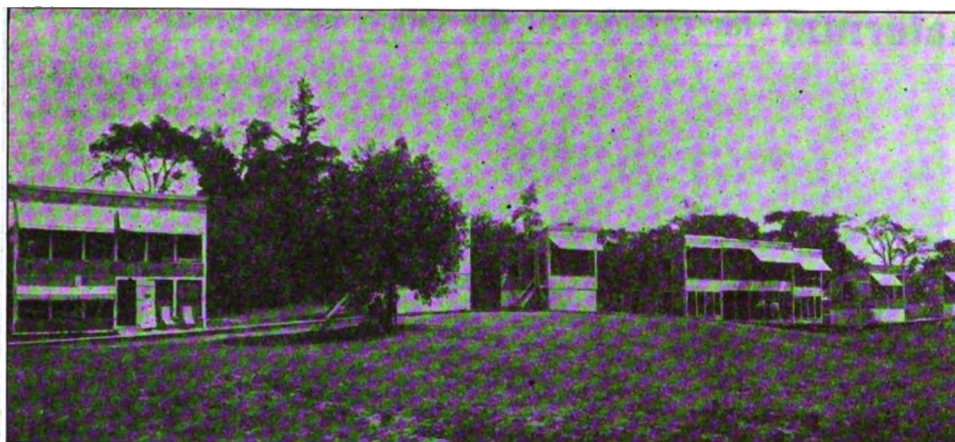
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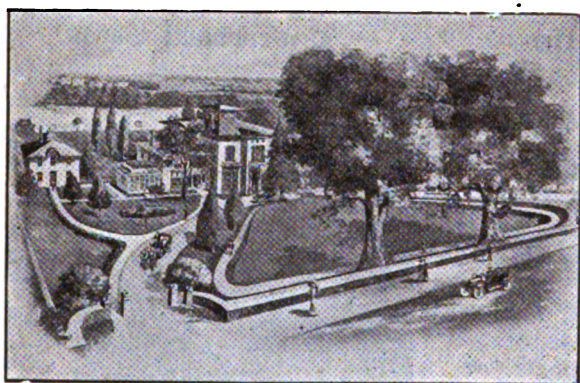
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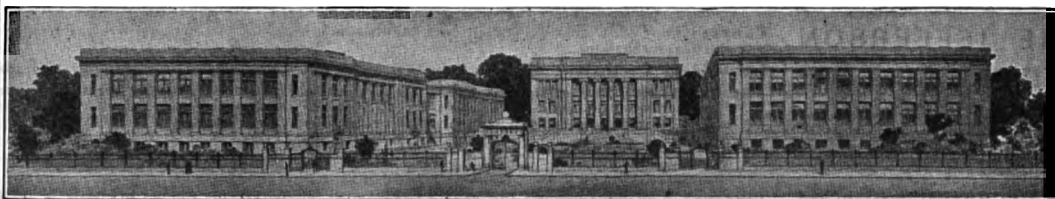
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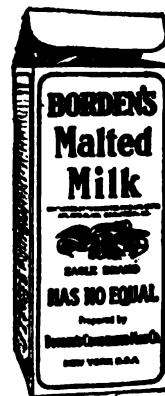
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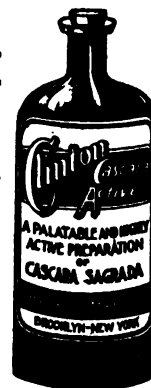
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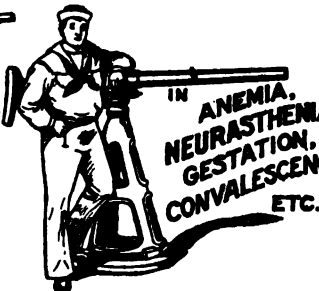
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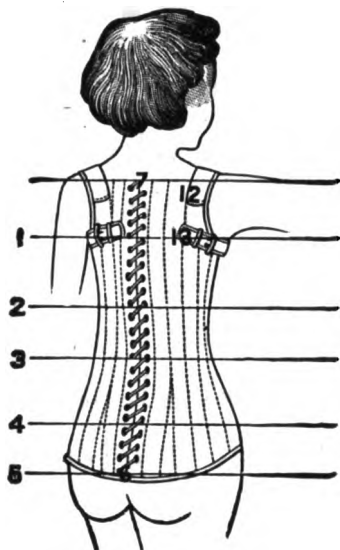
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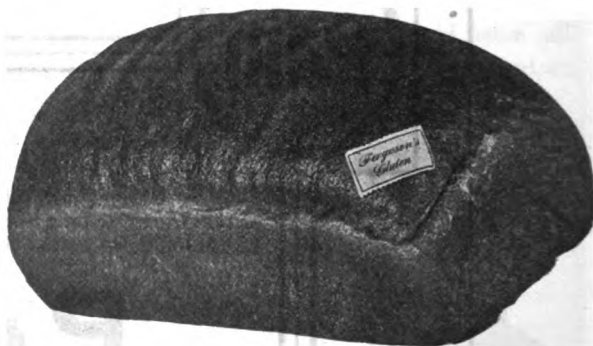
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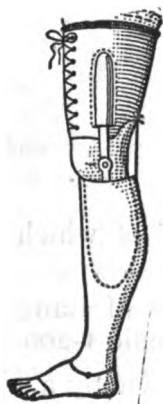
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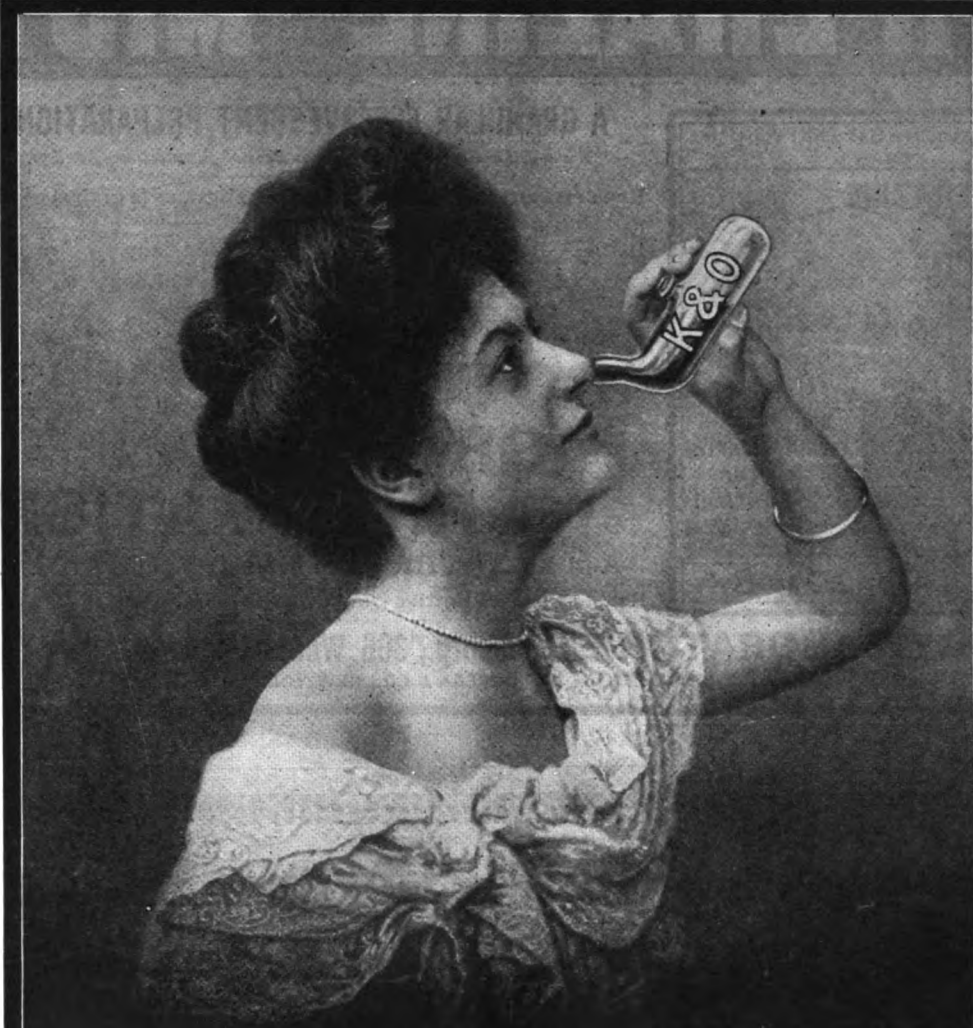
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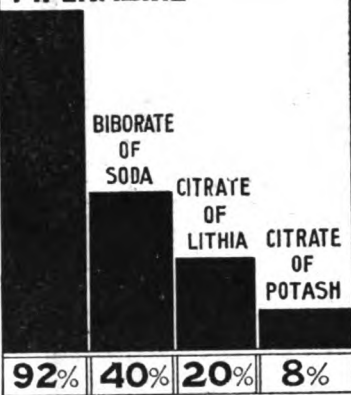
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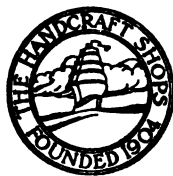
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As you are of course well aware, many of our ablest young men have served as alumni assistants and have been employed in the work of teaching in the departments of Theory and Practice, of Clinical Medicine and of Surgery, and also, for the first time last year, in the Department of Obstetrics.

When we remember that such men as the late Dean of the Harvard Medical School and the Secretary of our Alumni Association and Assistant Professor Wilder Tileston, of the Yale Medical School, and recently appointed Chairman of the Section of Medicine of the American Medical Association, have all served in this capacity, we ought all to feel satisfied with the discrimination which has been exercised by the proper authorities in the employment of the funds which your generosity has placed at their disposal.

It is an interesting fact that the subscriptions to this fund have been obtained, not only from alumni in the United States, but from many of the loyal alumni in foreign lands, — Italy, China, South America, Canada; and alumni in the Army, Navy and United States Marine Corps.

As it is the aim of this Association not only to supply annual salaries, but to establish a permanent endowment fund, which is already assuming tangible proportions, it will interest you to know that the committee in charge of this fund has been notified by one of the alumni that he has included in his will an appropriation for continuing his contribution to your fund.

One of those phases of medical student life which seems to have been almost universally neglected has been the social aspect of his career.

The medical student, unlike the college undergraduate, is drawn towards the great centers of population and, therefore, unable to enjoy those advantages which time is constantly showing is of so much importance to the moral as well as the physical makeup of the member of the academic community. The medical student is usually tucked away in some Latin quarter, or its equivalent, situated in that part of the city where a great hospital usually finds its home. He has to live in unfavorable surroundings and his means often do not permit him to indulge in more luxurious quarters than a hall bedroom.

Those of us who have been more or less intimately in contact with student life can bear witness to his unsanitary surroundings and his exposure to contagious disease. And it is this particular class of young men to whom the learned faculty employs its time and talent to preach about the laws of health.

In the early days of my medical career this was brought forcibly home to me. Students of that day did not have anything like the advantages which the slow improvement of time has grudgingly made since. In this city many of the poorer class of students came from the provinces and were a rough and uneducated lot, and a col-

\* Delivered at the triennial dinner of the Harvard Medical Alumni Association, Boston, May 22, 1912.

lege graduate found little that was congenial in their society. The same was true of a large medical school in Philadelphia. Here large numbers of southern students, chiefly from Kentucky, congregated. Their costume was of the crudest description — rough slouch hat appeared upon a head which had been thrust through a hole in an old blanket which took the place of an overcoat. As many as six often slept in one of the bedrooms and, as I found to my cost, were regarded with suspicion by all respectable boarding-house ladies of the town. The floors of the lecture rooms were indescribable, and the noise and disorder of the class was far beyond anything that I have ever encountered in my own experience as a teacher since.

Although the student to-day is a very different product from those developed by the crude conditions of that period, there is still much that could be done to round out his career, and to develop him, not only as a man of science, but as a friend who would be acceptable and welcome in any household.

It is my fervent hope that some means will be devised in the great medical undertaking which is developing which will provide for the conditions of the social life of the student, to give him comfortable quarters in which to live — a dormitory constructed on the most modern hygienic principles and along lines that would bring with it an object lesson to the lives of its occupants, and place this student not only on a par with the best college undergraduate, but be the means of inculcating many a simple household problem.

Such a building might be placed in the hands of a students' association, and the responsibilities for its proper maintenance entrusted to them. The surroundings could be made such as to cultivate a proper academic atmosphere, and recreation grounds would afford needed rest and exercise and enable him to pursue his studies in the open air. Dean Hodges, in an article on the "College Close," says, "So long as the dormitory is a tenement, the men will live in the street. That is the way of the tenement. But, when the dormitory takes on the aspect of cultivated life,

with lawn about it and flowering shrubs under its windows and clumps of chrysanthemums against its tall fence and immemorial trees, these influences summon men with pipes and books to sit in the shade, to talk and read and dream."

It is my ambition that among the numerous additions beside the philanthropic and scientific institutions that are from time to time grouping themselves about the Harvard Medical School, there may be one which will enable us to realize this attractive picture of student life.

## Original Articles.

### THE PETER BENT BRIGHAM HOSPITAL.\*

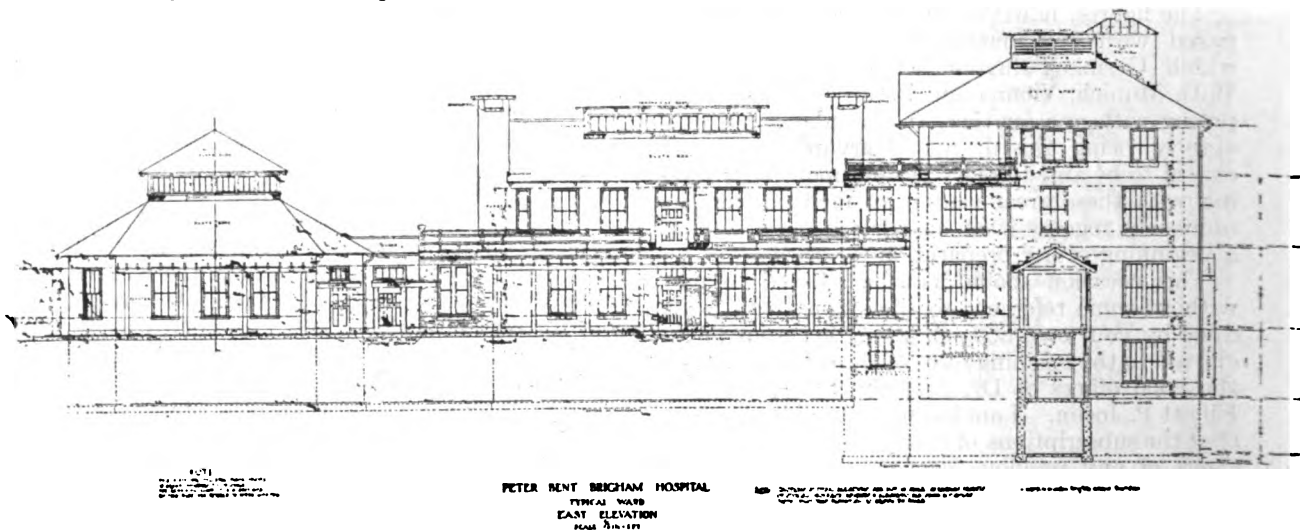
BY H. B. HOWARD, M.D., BOSTON

THE Peter Bent Brigham Hospital is now in process of active construction on grounds adjacent to those of the Harvard Medical School. The accompanying cuts show, first, the full lay-out of the hospital, the line of buildings on Van Dyke Street beginning with the nurses' home, the back of the administration building, the domestic building, surgical building, the pathological and medical buildings, the superintendent's house and the laundry. Fronting on Francis Street will be the Out-Patient Department, the administration building and five ward buildings.

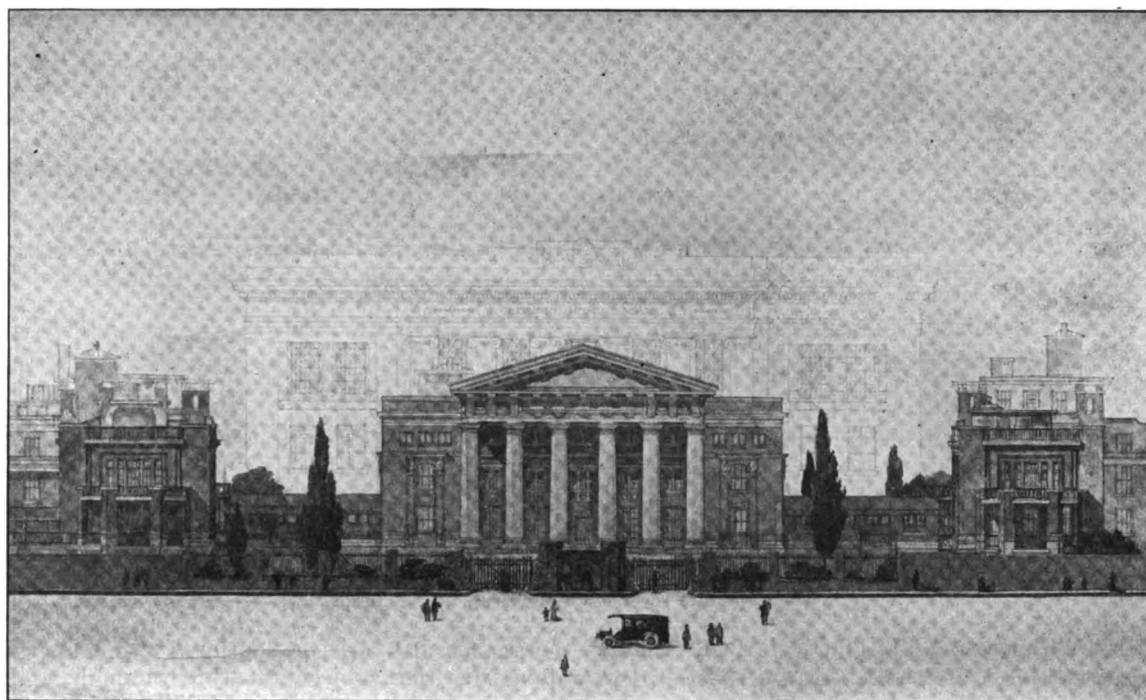
A long corridor goes the full length of the institution with branches off to the various buildings. This long corridor passes through the administration building and four of the ward buildings. On the main floor this corridor is screened on the north but open on the south side. The floor below this, called the ground floor, is out of ground on the north side but under ground on the south side practically all the way till just before it reaches the administration building.

The five ward buildings are upon a higher level than the rest of the institution so that the garden of the patients will be well drained. The other cuts show the administration building with

\*Abstract of address at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.







The Peter Bent Brigham Hospital, Huntington Avenue and Francis Street. Administration Building and adjacent wards. Codman and Despradelle, architects.

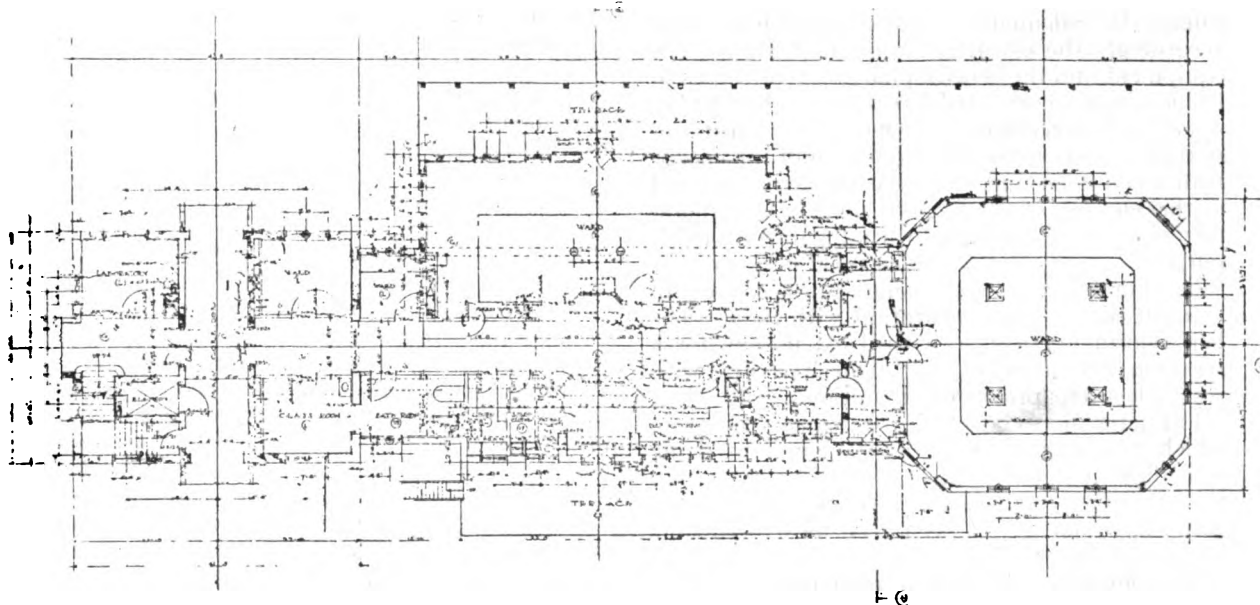
the garden about it, and one of the typical wards. Each ward is made for forty patients.

The wards are surrounded by terraces so that the beds can be easily rolled out upon them, and the patients upon these terraces can be in the shade or in the sun, as is desired. The wards that are on the second story also have a broad terrace, some fourteen feet.

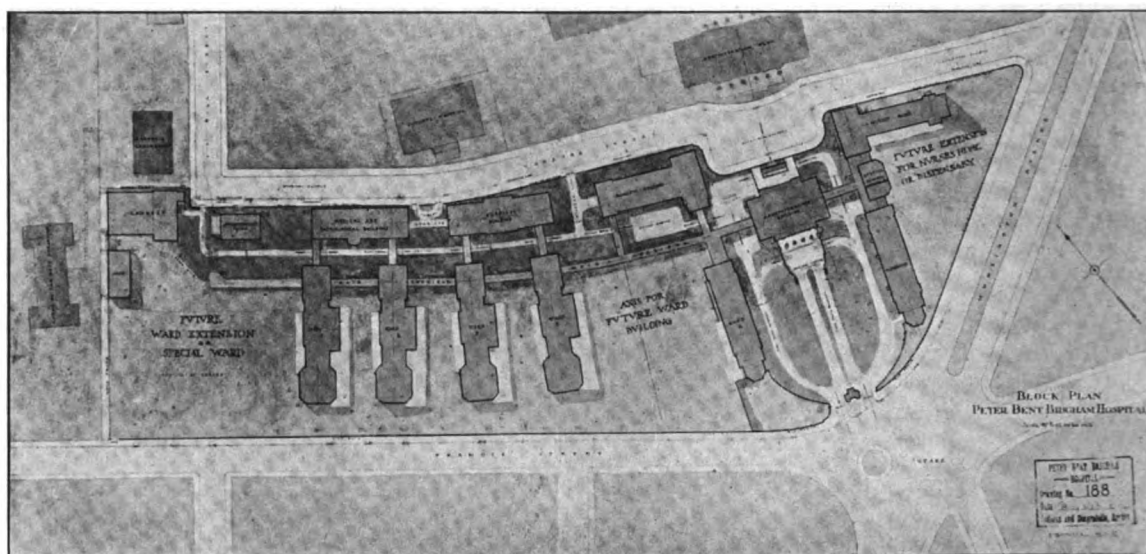
The characteristic unit of the hospital is this typical ward with its availability for open-air treatment.

The end or front ward of each one of these buildings is high and airy, similar to the old Ward A at the Massachusetts General Hospital.

Part of this typical ward building is one story high, part two stories, and part three stories, the highest being the northerly part of the building. This arrangement is to keep one ward building from shadowing another. Any shadow cast by this building will fall north of the corridor and the line of buildings north of the corridor contains no patients.



Ground plan of typical ward.



Ground plan of the Peter Bent Brigham Hospital.

**THE CARNEGIE NUTRITION LABORATORY.\***

BY FRANCIS G. BENEDICT, PH.D., D.S.C., BOSTON.

THE Nutrition Laboratory of the Carnegie Institution of Washington, a natural outgrowth of the investigations into the nutrition of man instituted by the late Prof. W. O. Atwater, of Wesleyan University, Middletown, Conn., was established in a building especially constructed for the purpose in 1907. The prime object of the laboratory is to undertake researches into the nutrition of man and animals, with particular reference to calorimetry and the gaseous exchange, although the facilities of the laboratory and equipment are so designed as to permit investigations in practically any field of metabolism and biological chemistry. As with the other departments of the Carnegie Institution of Washington, the main object is to undertake research problems that cannot be adequately studied elsewhere, and accordingly the construction of the building, the equipment and the general plan are so drawn as to bring as many correlated forces as possible to play upon each investigation. One of the most important factors is the determination of the energy transformations and the gaseous exchange, and to this end one of the largest rooms in the laboratory is especially designed with apparatus for this purpose. The calorimeter room at present contains four respiration calorimeters, all capable of being used for experimentation with man. The bed calorimeter has been used extensively for a research on diabetes, and more recently with researches on prolonged inanition. The chair calorimeter may be used for many studies in which the subjects keep awake and are doing some light manual work, such as typewriting, and the other two calorimeters, although nearly complete, have not as yet been used for experiments on man. In addition, several new types of respiration apparatus not accompanied by calori-

metric features are in continual use. In this apparatus the subject breathes through nose-pieces or a mouthpiece into a rapidly moving current of air, the carbon dioxide exhaled and the oxygen consumed being accurately measured. Recent attachments permit graphic records of the types, volumes and general character of the respiration, as well as the measurement of the total amount of air passing through the lungs.

With an institution as new as this, it is extremely difficult properly to apportion the funds and time of the observers upon the several important factors needing development. Thus far it has been possible to make a fairly equitable adjustment of expenditures, first, for new apparatus and new methods of technic; second, pure physiological experiments; and third, pathological investigations. Practically all of the apparatus at present in the building has been constructed there, and in the physiological experimentation our time has been chiefly occupied in securing information with regard to the normal metabolism of men and women to be used subsequently as a comparison with results obtained on pathological subjects. The most important investigation in pathology has been that undertaken in co-operation with Dr. E. P. Joslin on diabetes mellitus. One communication has already been made with regard to this investigation in which it was shown that as a result of diabetes mellitus there was an increased metabolism of the patient over normal amounting to approximately 15%. This investigation, which was published two years ago, has since been amplified and extended, and quite recently a short communication has been made at Atlantic City with regard to the later work. This later work completely verifies and substantiates the earlier observations, showing that the increased metabolism is approximately 15%, and likewise points out that the more severe the diabetes, the greater the metabolism, and that coincidental with a higher acidosis, a

\* Address at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.

higher metabolism is found. Simultaneously, two experiments were made on normal individuals in which there was an artificially induced acidosis — an acidosis resulting from the continued ingestion of a carbohydrate-free diet, — showing that even with normal individuals under these conditions there was increasing metabolism.

Investigations have likewise been in progress in association with Dr. Fritz B. Talbot with regard to the metabolism of babies and with Dr. John Homans, the metabolism of the hypophysectomized dog, and in conjunction with Dr. Joseph H. Pratt, investigations have been in progress with regard to dogs with deficient pancreatic secretion.

One of the most striking illustrations of the potentialities of an institution of this kind for studying problems of human physiology is an investigation which has recently been concluded, but by no means completed, on prolonged inanition. All the forces of the laboratory were brought to play upon the study of this one individual, Mr. A. L., from the Island of Malta. Professedly, Mr. L. had undergone several fasts in private, uncontrolled, at home. After coming to Boston a preliminary three-day experiment was made, during which food was taken as usual, and then the subject began fasting, and continued complete fasting, drinking only distilled water, for thirty-one days. During this time the following observations were made upon him: Carbon dioxide production, oxygen absorption, heat produced, rectal temperature, pulse-rate, blood pressure, alveolar air, acetone in breath, respiration rate, respiration volume, blood examination, anthropometric measurements, urine analysis, total nitrogen, urea, ammonia, uric acid, creatine, creatinine, phosphorus, chlorine, total sulphur, B-oxybutyric acid, total acidity, heat of combustion, total solids, carbon in urine, nitrogen in perspiration, photographs, x-ray examination, psychological tests, sensibility to electric shock, complete clinical examination.

In looking over this list, it is difficult to see how many more important observations could have been made at the time, and hence we hope to have here a complete study, as complete as the present-day methods will permit us, of the physiology and psychology of an individual undergoing a prolonged fast. Some of the details of this study may be of interest to you. During the fast, which was absolutely genuine, the subject was under the constant surveillance of either myself or some member of the laboratory staff. During the night from eight o'clock until eight in the morning, he slept inside the bed calorimeter, for the most part sleeping very well indeed. He was a remarkably quiet subject and co-operated in every way throughout the whole inanition period. Indeed, without his co-operation, the investigation would have been a failure so far as the metabolism and heat measurements are concerned. During the day he spent most of the time up on the balcony in the calorimeter laboratory and was there free to read, write and meet friends, and during this period a large number of prominent scientists visited him. These

visits he enjoyed exceedingly. On every pleasant day he was either taken out for a two-hours' ride or else taken up on the roof of the laboratory. The man retained in a marvelous manner his mental faculties and his general endurance, although there was a distinct evidence of lassitude as the fast progressed. It is obviously impossible at this time to give in any way quantitative figures with regard to his metabolism. The body weight, however, has been computed and checked and the curve approximately plotted. This was done on the blackboard in the laboratory for his own personal benefit, as the one factor that he particularly wished to keep track of was the body weight. The body weight during the thirty-one days fell from 60.6 kilos to 47.4 kilos, and not far from one pound per day. The subject received the constant attention of a skilled physician, Dr. H. W. Goodall, and at no time during the fast did any symptoms appear that warranted an abrupt conclusion of the fast. Although the original plan was to end the experiment at the end of thirty days, the subject was allowed to fast for one day longer in order to make a record, which he very much desired to do. While the inanition proceeded uneventfully, the re-alimentation is unfortunately a sad tale. Owing to the peculiar notions that some experienced and semi-experienced fasters have, the subject insisted upon filling his stomach and intestinal tract with concentrated undiluted juices of oranges and lemons. The distress caused by this was too much for him, and after two wretched days in the laboratory he was placed in a private room in the Massachusetts General Hospital, and when seen by Dr. Goodall on Sunday he was about the hospital and apparently in excellent spirits and condition. On the next day he left the hospital voluntarily, and the miserable sequel is well known to you all.

#### THE FUNCTION OF THE EXPERIMENTAL METHOD IN THE COURSE IN PATHOLOGY.\*

BY HOWARD T. KARNER, M.D., BOSTON.

If the student is to understand the pathological variations in function of an organ or group of organs, he must apply laboratory methods to his study just as he does for his conception of the pathological variations in structure. This can be done properly only by the use of the experimental method in such a fashion that he becomes intimately familiar with and correlates the cause, clinical course, variations in physiology and the underlying anatomical lesions.

During the first semester of the session 1911-1912, such a course in experimental pathology was instituted at the Harvard Medical School as an adjuvant to the methods of teaching already in effect. The course was given to the entire second class as an integral part of their formal training in pathology, this being the first time,

\* Abstract of address delivered at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.

so far as the writer knows, that such an extensive plan for the employment of the experimental method in the teaching of this subject has been attempted. The course included eighty experiments employing physiological, bacteriological, gross and minute anatomical, chemical and surgical procedures, serving to clarify the causes, course, outcome and tissue changes occurring in the diseased conditions studied in the regular course. The experiments were performed by groups of from three to five in a well-equipped Laboratory of Experimental Pathology and then, in a side room, demonstrated to the entire class in groups of ten men. Thus, each student had called to his attention the nature of every experiment, saw its course and outcome and entered into a discussion of its significance. The total number of experiments was great enough to enable each student to have charge of an entire experiment (extending over a period ranging from a few hours to as much as four weeks), and to assist in the performance of from three to five other experiments in charge of other members of his class.

The course was closely correlated with the lectures and demonstrations in pathological his-

In the semester just finished the interest and diligence of the students have given evidence of the value of the course; its practicability has been proven beyond question and it is now well established as an extremely useful and a permanent laboratory method of graduate and undergraduate instruction in the Department of Pathology.

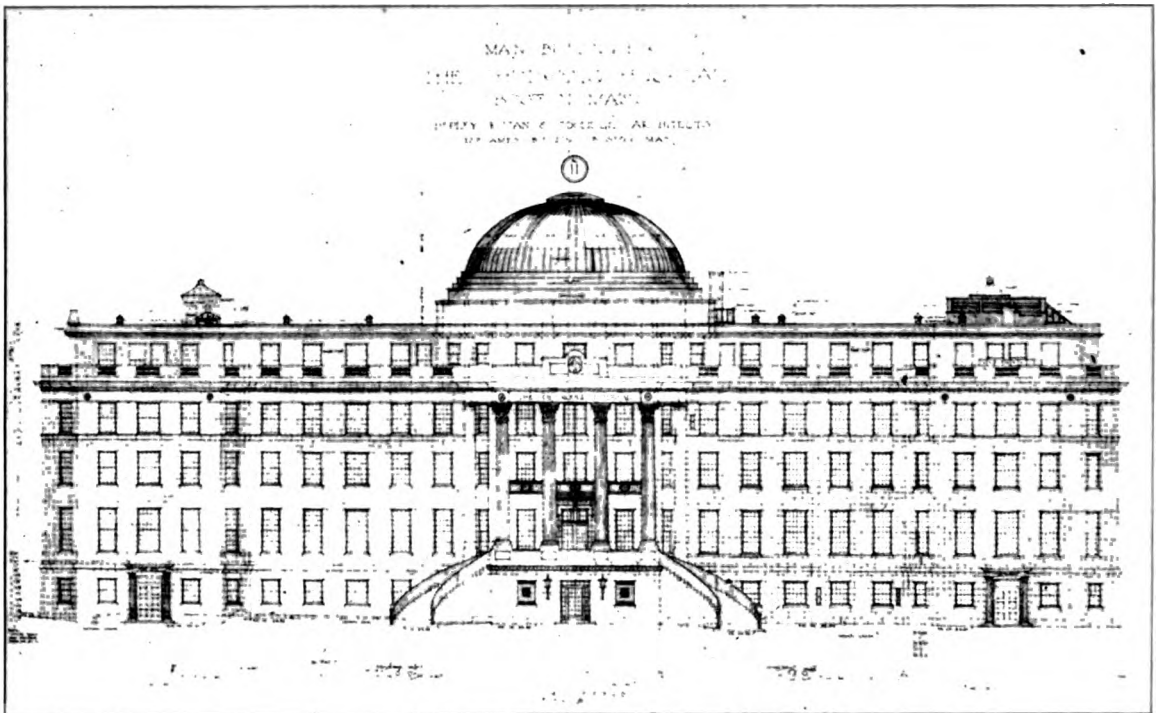
The expense of the course was borne by the fund provided by Dr. John C. Phillips, and the most careful attention was paid to carrying out both the spirit and letter of the "Rules Regarding Animals" of the Bureau for the Protection of Medical Research of the American Medical Association.

The address was illustrated by lantern slides showing the equipment and the results attained in several of the experiments.

### THE NEW CHILDREN'S HOSPITAL.\*

BY ROBERT W. LOVETT, M.D., BOSTON.

The new Children's Hospital, on which construction has already begun, is to be situated at the north of the Medical School, fronting on Longwood Avenue. The Administration Build-



Front of the main building, Children's Hospital, Boston. Longwood Avenue, adjoining the Harvard Medical School. Shepley, Rutan and Coolidge, Architects.

tology and gross morbid anatomy and continually emphasized the clinical application of the laboratory studies of diseased function and tissue. The students were under the close supervision of the assistant professor, but were encouraged to work with as little verbal direction as possible so as to develop ingenuity in methods as well as thoughtfulness in interpreting the results obtained.

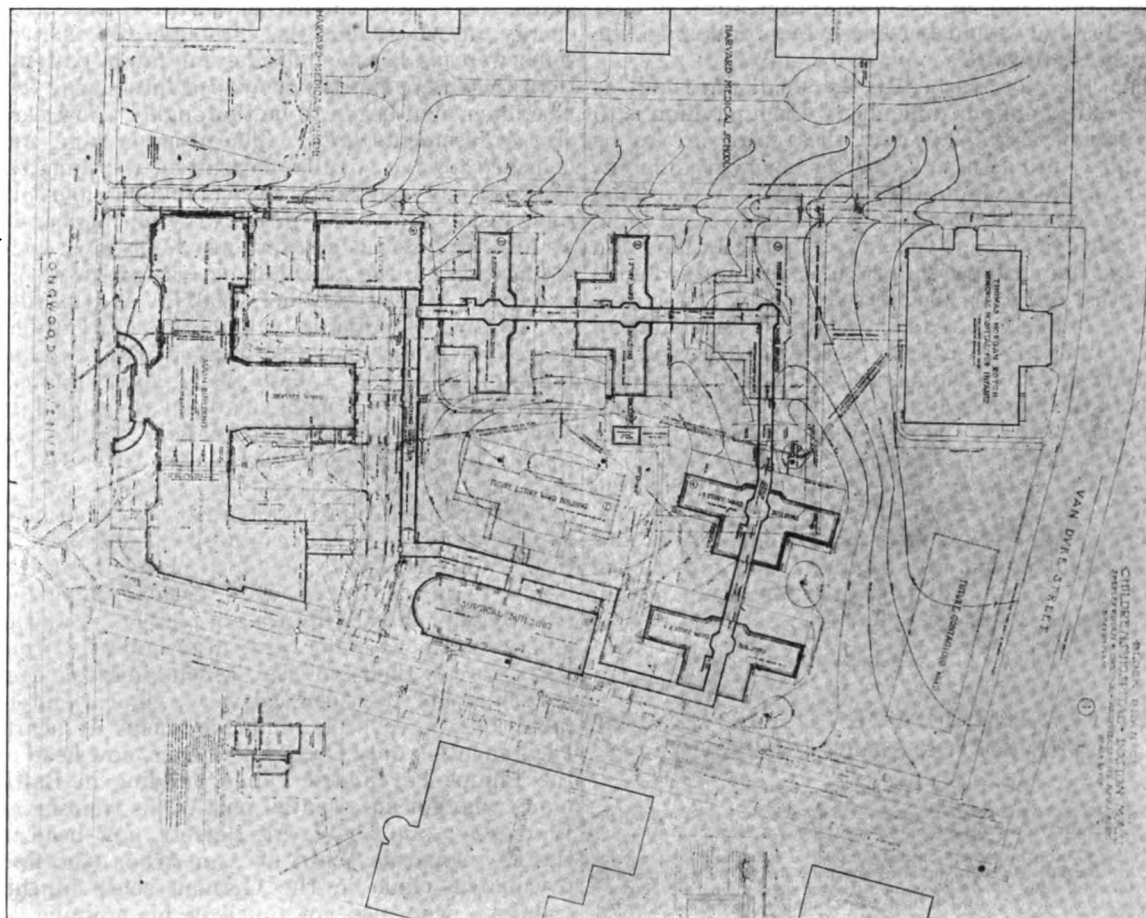
ing, the Nurses' Home and the Out-Patient Department, forming one block, occupy the entire Longwood Avenue front of the land. At the back are to be placed the wards, the surgical building, etc. The plans for the building were prepared by a committee of the staff, who con-

\* Address at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.

sidered the medical requirements of the institution and presented the specifications to the building committee and the staff, by whom they were approved, and thence transmitted to the architect.

At the outset we were faced by two peculiar requirements, for in a children's hospital dealing with surgical and orthopedic cases, first, facilities for outdoor treatment must form an integral part of the institution, and, second, the arrangement must be such as to minimize the danger of the spread of infectious diseases in the wards. Again and again it has been our experience in the present building that a ward of twenty beds would have

method of construction. The monitor top allows at all times an abundance of outdoor air, and the simplicity of construction and its proved availability make it desirable, but in the land at our disposal it was impossible to have single-story pavilions. The question was therefore referred to the architect, and Mr. Coolidge presented a scheme of superimposing one monitor-top pavilion upon another. A wall is carried up and at the top of the lower pavilion there comes a lattice work of brick, which continues until the lower part of the upper pavilion is reached, when it again becomes solid construction. The monitor top of the lower pavilion remains inside,



Block plan of the Children's Hospital, Boston.

to be closed because of the occurrence of one case of measles or scarlet fever, and in addition to the unnecessary illnesses contracted in this way, the work of the hospital has been very seriously impaired by the large ward unit.

With regard to the outdoor treatment, in considering our own institution, it was manifest that in the block system of building we would not be able to obtain sufficient outdoor air for the needs of our patients with surgical tuberculosis, and we therefore had to turn to the pavilion plan. At the State School for Cripples at Canton and at the Convalescent Home of the Children's Hospital at Wellesley it has seemed that the one-story monitor-top roof shed was the most available

and through the open spaces in the brick lattice work an abundance of out-door air is assured. It will be necessary to make the floor of the upper pavilion very thick, and possibly to have it heated, but that is an obstacle easily surmounted. The top of the upper pavilion is the ordinary monitor-top roof, and the balconies on the upper pavilion are so arranged as to cast no shadow upon the windows of the lower pavilion. Again we met an obstacle with regard to a covered balcony for the lower pavilion, because if roofed over the roof would cut off the sun from the windows of the pavilion. The roof was therefore reversed and placed at the outer edge of the piazza which runs around each pavilion in order that the cases might



be wheeled out of doors through the windows which are to be between each bed, and be under shelter without taking away from the light and sun entering the pavilion.

With regard to the spread of infectious diseases in the hospital, of course the observation ward at first suggested itself as the available solution, but when we came to consider the matter carefully we found that the stay of the children was so short in the hospital, owing to the fact that we have a large convalescent home at Wellesley, and the period of incubation of some of the infections was so long, that the majority of the cases would never enter the hospital at all, but would finish their stay in the observation ward, so that the hospital would become a mere annex to the observation ward.

We therefore turned to the small ward unit as the solution of our difficulty. Each pavilion is to contain twenty beds, and these beds are to be divided into two units of ten each at different ends of the pavilion, the children of the two units never coming in contact. One or two ward units will always be kept vacant, so that if an infection occurs the ward has simply to be quarantined until emptied and then disinfected, and by this means we seem likely to reduce very much the handicap of contagious diseases. The experience of the State School for Cripples at Canton has shown that where the children live in properly aired pavilions as they do there, the spread of infection from one case to another is very unusual.

At the back of the Administration Building will come the Surgical Building and the pavilions. The hospital is planned to accommodate about one hundred and fifty children, and it is hoped that the wards will be ready for occupancy in September, 1913.

## THE NEW PSYCHOPATHIC DEPARTMENT OF THE BOSTON STATE HOSPITAL.\*

BY E. E. SOUTHARD, M.D., BOSTON,

*Director of the Psychopathic Department of the Boston State Hospital, and  
Bullard Professor of Neuropathology, Harvard Medical School.*

[The following statement consists in part of remarks at the meeting of the Harvard Medical Alumni Association at its triennial meeting Wednesday, May 22, in the amphitheater of Building D, Harvard Medical School. In addition there was a running description of certain features of the new building to correspond with lantern slides of the plans. In place of this is appended a brief description of the origin and plans of the Psychopathic Hospital, reprinted from the annual report of the State Board of Insanity.]

I. The citizens and especially the physicians of Massachusetts have reason to be proud of the state's attitude to the problem of insanity. The problem of state care is apparently increasing. It is not that the number of *new* cases of mental disease in the community is so rapidly increasing. The commitment rate in the last thirty years shows almost a flat curve. Its slight gradual elevation is partly due to the increasing urbanization of the state, partly to earlier diagnosis, partly to the freer classification of certain seniles as insane, partly to the immigration of poor stock, partly to other factors. But most of these fac-

tors have tended even more remarkably to the steep rise of the accumulation rate.

Of course the purely humanitarian rise from the barbaric "Belgian cage" and the chains of Bedlam, as depicted in the famous picture of Pinel at the Salpêtrière, entailed the expenditure of vast sums of money; but economists were doubtless soon satisfied that the state was better off even financially in the long run through the establishment of institutions on more hygienic lines.

The corridor or block system, illustrated by the Worcester State Hospital, 1833, and by the Centennial prize-winning Danvers State Hospital plans, 1879, was carried out with considerable energy in Massachusetts, although the institutions were as a rule built for far fewer patients than they were shortly developed into caring for. The inner man began to be thoroughly taken care of. Amusements grew. The grounds were embellished for the possible pleasure of the inmates. The patients were so far as possible employed in such tasks. Novelties in construction appeared, at first in internal adaptations, later in a wide application of the pavilion or cottage principle (Medfield, 1896; Gardner, 1902). At Gardner the housing of patients in homelike cottages has proceeded to a remarkable degree, so that conditions of family care have been approximated. Indeed, family care itself has been developed to some degree, especially with elderly women patients; to a lesser degree with men (over 190 in the present year).

In the institutions appliances for treatment have been put in as advocated by various authorities. With the year 1895, special laboratories began to be developed, with pathologists freed from regular clinical routine in charge. But the laboratory men of our institutions, partly from the nature of their material, which almost creates a vacuum for physiological (i. e., clinical) interpretations, have been sound clinicians at heart. I will mention only Dr. Adolf Meyer, now head of the Phipps Psychiatric Clinic building in Baltimore, who got an essential part of his training at Worcester; and Dr. A. M. Barrett, now head of the Psychopathic Ward at Ann Arbor (the first psychiatric clinic in the German sense in this country), who also got much of his training at Danvers.

II. On account of its general interest to the citizens and physicians of the commonwealth and to those workers in other states who may be interested in similar developments, a brief description is included of the new institution, officially known as the Psychopathic Department of the Boston State Hospital, but more commonly termed the Psychopathic Hospital. This institution has in part a "*clearing-house*" function for the insane of Boston and in part an *investigative function* in accordance with the report of the State Board of Insanity in 1908 and chapter 470, Acts of Legislature, 1909.

The scope of the Psychopathic Hospital corresponds most closely with that of certain German institutions, commonly termed *psychiatric*

\* Address at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.



*clinics.* Since American psychiatry has come so strongly under the influence of Kraepelin, it is probable that Kraepelin's clinic in Munich is the model of such institutions which it is most generally desired to approach. The plans for the Munich clinic were begun in 1900 by Anton Bumm, a pupil of Gudden; the clinic was opened Nov. 7, 1904, by its Director, Emil Kraepelin. Certain resemblances, and certain marked differences, can be found on comparison of the Munich clinic and the new Psychopathic Hospital.

It must not be forgotten that several previous American institutions were borne in mind in the construction of the Psychopathic Hospital plans, viz., the Psychopathic Ward of the Hospital of the University of Michigan, the Psychiatric Institute of the New York Lunacy Commission, and Pavilion F of the Albany General Hospital.

psychiatric education of the state officers who have taken courses under the institute officers. The research standards of the institute have caused it to be a Mecca for alienists from every state.

Pavilion F at Albany has laid stress, under Dr. J. M. Mosher, upon therapeutics and the care of the insane under general hospital conditions, but it cannot be said that the superintendents or the trustees of general hospitals have taken its example much to heart.

It is difficult to learn exactly how many institutions of this specialized sort exist in the world. A study of *Minerva* shows over fifty institutions in which such specialized cure and investigation of the insane are carried out. Almost half of these are in German-speaking countries. Cramer, of Göttingen, has described the Prussian psy-



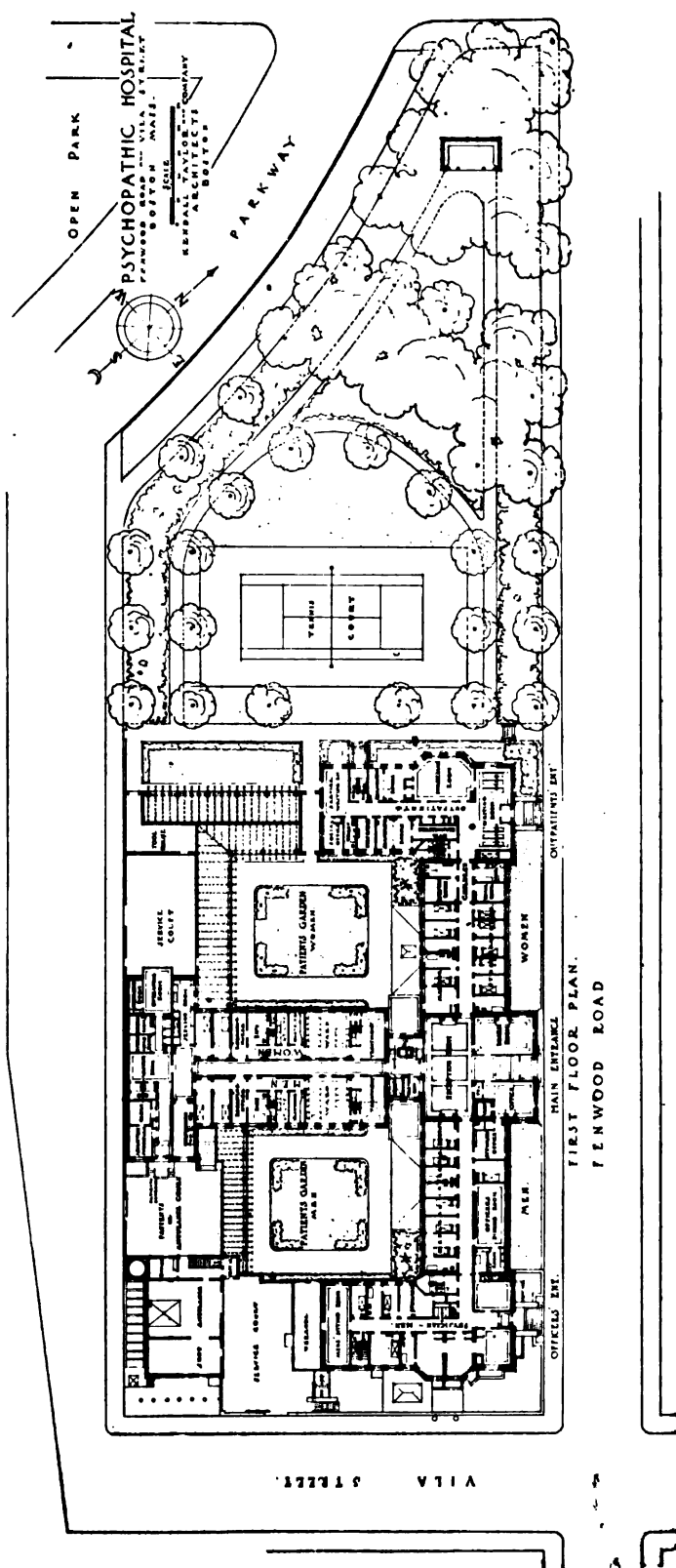
The Psychopathic Hospital, Boston. Kendall, Taylor & Co., architects.

Of these, only the Psychopathic Ward at Ann Arbor, Mich., forms a psychiatric clinic in the strict German sense; it is probably not yet large enough (40 beds) for a proper assortment of all clinical types, and it is administered in connection with the remainder of the hospital, much as the Berlin psychiatric clinic is administered as a part of the Charité Hospital. Under its first director, Prof. A. M. Barrett, formerly pathologist to the Danvers State Hospital, a high standard of research has been maintained, and the Michigan institution must be accorded the distinction of the first American psychiatric clinic (1906), embodying high therapeutic standards, opportunities for instruction and the ideals of investigation.

The Psychiatric (originally Pathological) Institute of the New York State Lunacy Commission, at first divorced from clinical work, was reorganized under Prof. Adolf Meyer (in 1902 and subsequent years) with clinical as well as anatomical aims. This institute has meant much to the state of New York, especially in the advanced

chiatric clinics in comparative fashion. Those of Berlin and Greifswald grew out of clinics for general medicine. Most of the others have grown from the necessities of teaching done by hospital directors in connection with universities, which (be it remembered) are governmental matters in Prussia and readily permit such extensions of function.

It was after the middle of the nineteenth century that the Prussian insane hospitals began to be used for instruction (Göttingen, 1866; Berlin, 1866; Halle, 1869; Marburg, 1876; Breslau, 1877; Bonn, 1882). The first specially constructed clinic in Prussia was that of Halle, 1891; its director was Hitzig, the famous discoverer of the electrical stimulability of the cerebral cortex. The Halle clinic contains 100 beds for insane and 40 for neurological cases. The clinic at Kiel, modeled after that at Halle, 1901, contains 125 beds, and, although in the suburbs, attracts a steadily increasing number of dispensary patients (628 in 1909). The clinic at Greifswald, 1906,



Ground plan of the Psychopathic Hospital, Fenwood Road, Villa Street and The Parkway, Boston. Showing the entrances for patients and officers, the reception and examination rooms, recreation grounds, etc.

72 beds, stands almost midway between the pavilion construction of the Halle and Kiel clinics and the block system. The clinic at Breslau, 1907, contains 110 beds and is built more on the block type. The clinic at Berlin was constructed in 1905; it is a part of the Charité, and is now the only public institution in Berlin which receives mental patients. Besides a neurological clinic containing 56 beds (450 patients annually), the clinic in a separate building possesses 160 beds (over 1,700 patients annually). Königsberg has a clinic in course of construction (1912). The clinics of Göttingen (1906) and Bonn (1908) are developments upon pre-existing institutions.

An extended description of the Psychopathic Hospital has been contributed by Henry H. Kendall, A.A.I.A., hospital architect, Boston, to the *International Hospital Record*, Vol. 14, No. 6, Feb. 19, 1911. The following description is condensed and modified from Mr. Kendall's paper.

The site fronts northeast, on Fenwood Road, and extends from Villa Street to the Parkway, with a private street on the rear. The building occupies a little more than half of the lot, leaving at the end nearer the parkway ample space, now to be used for recreation, but which may later be used for buildings. The building has the general shape of the letter E, with the long side fronting Fenwood Road, and practically encloses two rectangular courts open to the south and west, which are to be used as airing and exercise gardens for the patients. The portion devoted to patients is almost entirely on the southwest side. The building is four stories high with a high basement.

There are three entrances on the main front. The central entrance leads to the reception room, from which radiate the main avenues to all parts of the hospital. The northern entrance on the first floor leads to the *out-patient department*, with a large waiting room, and adjoining rooms for physicians, examinations, dispensary, toilets and quarters for record clerk and social service for the efficient following up of cases.

The "pavilion," so called, in the central arm of E, is exclusively for patients and treatment. It is intended that patients shall generally come to the hospital from the rear, entering an enclosed yard located between the pavilion and the garage. An ambulance or carriage entrance is here provided, and patients will enter the *admitting ward* at this door, passing with their friends or attendants directly to the waiting room, where a nurse will receive them for examination and bath, after which they will be put under observation in private rooms and later classified in wards as may be directed.

The first floor of the pavilion is so divided as to provide admitting ward and private room accommodation for both sexes separately, and all walls are deadened and double windows are provided to shut in all sound. This plan is pursued throughout the pavilion, and, in order to make it effective, thorough ventilation is arranged for this entire wing.

Although the surgical needs of such a hospital are small, there are sufficient cases received to

need provision for prompt attendance, and a small compact *operating suite* is provided on this floor.

The second and third floors of the pavilion contain the *acute wards* for men and women respectively. Rooms for single and disturbed patients fill one end; wards for less troublesome cases, with prolonged baths, toilets, clothing and storerooms, fill the remaining space.

The fourth story of the pavilion contains a *roof garden*, partially covered, but open at the sides, giving sufficient protection from anything except a driving rain storm. The sides and open part of the roof are enclosed so as to be safe from accidental or intentional escape.

A nurses' training classroom is provided, with a diet kitchen for instruction and practical use, and in the rear another solarium with open balconies and roof, so arranged that it may be available for women if the other is in use by men.

The basement of the pavilion at the street end is devoted to the heating apparatus, air washers, plenum and fan rooms, with ducts leading under the floors from here to the main building.

A separate entrance from the ambulance yard admits to the mortuary, with a columbarium, preparation room, autopsy, etc.

At the passenger elevator and central staircase is the main axis of the building, practically and administrative. Here the connection is direct with each department, each wing, each classification. Down this stair or elevator, from every floor and ward, can come patients, without crossing through other wards or departments, and connect to any department desired. To the basement they will come for access to the gardens on either side.

To the basement floor patients will come for *hydriatric treatment*, for which provision is made in well lighted and ventilated rooms in the main building, near the stairs and elevator. Rooms for x-ray, photography, physical therapeutics, a dispensary, drug storage, etc., are also located on this floor.

The sex division is maintained in the two wings of the main building, as indeed it is in all floors. Starting from the main stair, we come, first, to the *record room*, where all case records will be filed for convenient access.

On the front of the building is the medical *library*, a large room fitted with cases, alcoves, reading tables and proper lighting for convenient study. On either side are the *laboratories*, offices for the director and laboratory chief, with conveniences and apparatus for careful and accurate study, which is one of the leading ideas in the provision of such a hospital. The two wings accommodate various officers and physicians.

On the third floor is an *assembly room* and recreation hall, where such patients as can be permitted may gather for service or amusement; or where lectures can be given. The space on either side is devoted to *rooms for nurses* and will be so used until a nurses' home shall be required, but all the main partitions are so planned and constructed that this whole story can be converted into wards

and rooms for patients in the same manner as planned for the fourth story, thus adding materially to the accommodation of the hospital when its anticipated growth shall require it.

On the fourth floor is the *observation ward*, with rooms designed for patients and their friends, where, when able, they may meet and visit, and offices of the chief of staff, assistant physicians and superintendent of nurses and a clerk, in whose charge will be reports of condition, etc., for prompt information on cases to friends and relatives.

The observation wards are formed of small units and some single rooms, with the requisite treatment rooms, baths and other offices necessary for the care of patients. Diet kitchens and service, connected with the kitchen service below, provide for feeding the patients in their own quarters.

Day rooms and balconies give accommodations for patients not confined to their beds, and the outlook from all parts of the hospital is interesting.

"Preference has been given in every case to the care of the patient, and the expenditure has been concentrated upon provision for this rather than upon creating an architectural monument."

#### THE DEPARTMENT OF PREVENTIVE MEDICINE AND HYGIENE AND THE NEW DEGREE OF DOCTOR OF PUBLIC HEALTH.\*

BY M. J. ROSENAU, M.D., BOSTON.

THE Department of Preventive Medicine and Hygiene at Harvard was founded in 1910. Two courses are given; one required, the other elective. The required course consists in lectures, demonstrations and sanitary excursions to the students in the second-year class. Special emphasis is laid upon the modes of infection and prevention of the communicable diseases. This part of the course is made as practical as possible with the facilities at hand: Thus, proper methods of vaccination and the use of the bacterial vaccines are demonstrated; the students vaccinate each other and study the subsequent course of events. The required course also includes a discussion of soil, air, water, food and our environment generally in relation to health and disease. The following subjects are also given consideration: The management of an epidemic, the duties of the public health officer, quarantine, school hygiene, industrial hygiene, vital statistics, sewage, garbage, disinfection, immunity, heredity, eugenics, sex hygiene and venereal prophylaxis. The class is taken to the antitoxin and vaccine establishment at the Bussey Institute; to a milk-producing farm; a city dairy; to quarantine and other places of sanitary interest.

The elective course consists mainly of laboratory work in the above subjects. Each student makes a complete sanitary analysis of water and milk. The significance of the results are dis-

cussed in conference. The carbolic coefficient of the more important germicides are determined and the efficiency of sulphur dioxide, formaldehyde and other fumigants used in public health work are tested. The elective course also includes practice in the modern methods for isolating typhoid bacilli from feces, urine, blood and similar diagnostic methods of public health importance.

#### DOCTORS OF PUBLIC HEALTH.

On June 22, 1910, the President and Fellows of Harvard University authorized the Faculty of Medicine to offer a course leading to the degree of Doctor of Public Health (Dr.P.H.).

The object of the course is to prepare candidates for several lines of public health work, such as administration work, laboratory research, or teaching.

Candidates for the degree of Doctor of Public Health are advised first to take the course leading to the degree of M.D. The fourth year of the medical course should be devoted to advanced work in bacteriology, protozoölogy, human and comparative pathology, preventive medicine and hygiene, sanitary engineering, etc. Opportunities are offered for the study of infectious diseases, both human and animal, and students for the degree familiarize themselves with the practical administrative work of public health organizations.

Candidates for the degree of Doctor of Public Health who are graduates in medicine must spend not less than one year in scientific work upon a special subject and present an acceptable thesis containing the results of original research.

Candidates may be admitted to advanced standing, and special courses are arranged to suit individual cases. Credit for work done at other institutions may be given in considering applications. The courses leading to the degree of Doctor of Public Health need not be confined wholly to the medical school but may include work offered in any department of the University in harmony with the objects of the course. All students for the degree are advised to take the admirable courses in sanitary engineering inaugurated this year under the direction of Prof. G. C. Whipple, which are given in the Graduate School of Applied Sciences.

While candidates for the degree of Doctor of Public Health are advised first to take the medical courses, the medical degree is not a prerequisite. Those who desire to specialize in sanitary engineering, sanitary architecture, sanitary chemistry, vital statistics or other branches of public health work may receive the degree after four years of work following the bachelor's degree. Such candidates must also present an acceptable thesis embodying the results of original research.

In any case a minimum of one year of residence is required.

Two candidates received the degree of Doctor of Public Health last year. This year there will be three successful candidates. The following subjects will illustrate the scope and nature of the special work taken up by the some of the candidates for the degree.

\* Notes of remarks made at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.

Certain Fundamental Principles Relating to the Activity of Bacteria in the Intestinal Tract. Their Relation to Therapeutics. Arthur I. Kendall. *Journal of Medical Research*, Vol. xxv, No. 1, September, 1911, pp. 117-187.

An Investigation on the Permeability of Slow Sand Filters to *Bacillus Typhosus*. Edward B. Beasley. *Journal of Medical Research*, Vol. xxv, No. 1, September, 1911, pp. 101-117.

Infantile Paralysis. Philip A. E. Sheppard. Special Report on Infantile Paralysis in Massachusetts during 1910. *BOSTON MEDICAL AND SURGICAL JOURNAL*, Vol. clxiv, No. 21, May 25, 1911, p. 737; *Monthly Bulletin of the State Board of Health of Mass.*, Vol. 6, No. 12, December, 1911; *Monthly Bulletin of the State Board of Health of Mass.*, Vol. 6, No. 5: *Bulletin of the Vermont State Board of Health*, March 1, 1912.

Heat, Moisture and Carbon Dioxide Considered as Fatigue Factors in Their Relation to Health. William G. Anderson. In press.

Experimental Studies upon Milk with Special Reference to the Uniformity of Different Grades of Milk and the Effects of Storage upon Certified, Inspected and Pasteurized Milks. Based upon Daily Observations of Samples Covering a Period of Ten Months. Edwin H. Schorer. *Journal of Medical Research*. In press.

A Chemical Study upon Organic Matters in the Expired Breath. Harold L. Amoss. In press.

A Study of *Bacillus Carriers*. Fred M. Meader.

Experimental Investigations on the Gas *Bacillus*. James P. Simonds.

An Epidemiological Study of an Outbreak of "Septic Sore Throat." Thomas A. Mann.

There is a pressing need for trained leadership in public health work. The university has already had several requests from cities to furnish health officers. This is a new departure in sanitation and is a good sign for the future. One of the students (Dr. Mann) from the Department of Preventive Medicine and Hygiene is now the health officer of Brunswick, Ga. Dr. Kendall, who took the degree Dr. P.H. last year, has just accepted the chair of bacteriology at Northwestern University. Dr. Amoss, who will receive his degree this year, goes to the Rockefeller Institute as assistant to Dr. Flexner. Dr. Meader, a candidate for the degree, now has charge of the Bacteriological Laboratory of Syracuse, and also holds the chair of hygiene of that university. Dr. Simonds, another candidate for the degree, is Director of Laboratories of the State Board of Health of Indiana. Prof. Wm. S. Anderson is director of the Department of Physical Culture at Yale. These are given as illustrations of possibilities and opportunities for those who specialize in the sanitary sciences.

The extra-mural activities of the Department of Preventive Medicine have been varied. Interest has been taken and aid rendered to many different social, philanthropic and other organizations concerned with uplift; such as the Milk and Baby Hygiene Association; Commission for the Blind; Instructive District Nursing Association; Women's Municipal League; Commission on Standards of the New York Milk Committee, National Educational Association;

American School Hygiene Association; Health-Education League, etc.

In addition to the above, all members of the department devote their entire time, outside of that necessary for instruction, to research work, but this is another story.

## THE HUNTINGTON HOSPITAL AND THE SCOPE OF ITS WORK.\*

BY E. E. TYZZER, M.D., BOSTON,

AND

THOMAS ORDWAY, M.D., BOSTON.

THE Cancer Commission of Harvard University owes its origin to a gift of Caroline Brewer Croft, bestowed with the end in view of promoting research on the subject of cancer, this term being taken in a broad sense as applying to malignant tumors. The commission is composed as follows: J. Collins Warren, M.D., chairman; Henry K. Oliver, M.D., for the Caroline Brewer Croft Fund; Henry P. Walcott, M.D., Arthur T. Cabot, M.D., for the Corporation of Harvard College; William T. Councilman, M.D., Theobald Smith, M.D., for the Harvard Medical School; Arthur Adams, treasurer; E. E. Tyzzer, M.D., director; Thomas Ordway, M.D., physician-in-charge, Huntington Hospital; Robert B. Greenough, M.D., secretary. The earlier investigations were chiefly etiological, and the direct method of attack was for the most part employed, while in subsequent research the experimental method was more generally used. The results of the investigations of the commission are published in its five reports, and it is gratifying that the conclusions drawn have for the most part stood unchallenged. While the importance of work along the lines already outlined is apparent, it was considered unwise to neglect the clinical study of malignant tumors in the human being, and it was evident that a special hospital for this purpose under the management of the commission would be necessary. Through the generosity of numerous public-spirited persons, this has been realized.

The name, Collis P. Huntington Memorial Hospital, is in recognition of a generous gift from Mrs. Huntington. This, together with other contributions, a list of which will be published in the annual report of the hospital, has enabled the commission to build and equip the hospital which now stands complete at the corner of Huntington Avenue and Van Dyke Street, on grounds adjoining those of the Harvard Medical School and the Peter Bent Brigham Hospital. It has been the aim to construct a building of which both the exterior and as far as possible the details of furnishing and equipment should be more suggestive of a home than an institution.

The hospital is a three-story building of brick with limestone trimmings; on the street floor to the right of the main entrance are the administrative offices, two laboratories, and rooms for the out-patient service, including waiting,

\* Address at the triennial meeting of the Harvard Medical Alumni Association, Boston, May 22, 1912.

examining and dressing room; at the left of the entrance (west wing) are the reception and dining room for ambulatory patients, serving room, and a ten-bed ward for men. The second floor is similarly arranged with a ward for women in the west wing; the east wing is occupied by the matron's room and five private rooms. Both wards are connected by large double doors directly with spacious solaria which are completely screened. On the third floor are the rooms for the nurses in the west wing, and those for the maids in the east wing. In the basement are the laundry, kitchen, dining rooms, a dark room for photographic work, a pathological laboratory equipped for post-mortem work, an x-ray and radium room, a chemical hood, a steam bath and an incinerator. The hospital is provided with an elevator sufficiently large to take the hospital beds, and there are two stairways, one opposite the main entrance and one at the east end of the

Ellis Kellert, house physician; Robert B. Greenough, consulting surgeon; Henry A. Christian, consulting physician; Miss Irene W. Mason, matron; and Miss Anna Gibson, assistant matron. No salaried medical officer connected with the hospital is allowed to accept a fee for a medical service.

A system of typewritten records has been adopted with cross reference to other data, institutional or private, which are not only in form for ready reference, but constantly increasing may be of value for future investigations. The hospital has obtained the services of an expert in order to put the accounts upon an approved business basis.

Provision has been made for both an out-patient as well as in-patient service. The out-patients include such cases which may present themselves for diagnosis and treatment who are not favorable subjects for admission as in-patients.



The Collis P. Huntington Memorial Hospital, Huntington Avenue and Van Dyke Street, Boston.

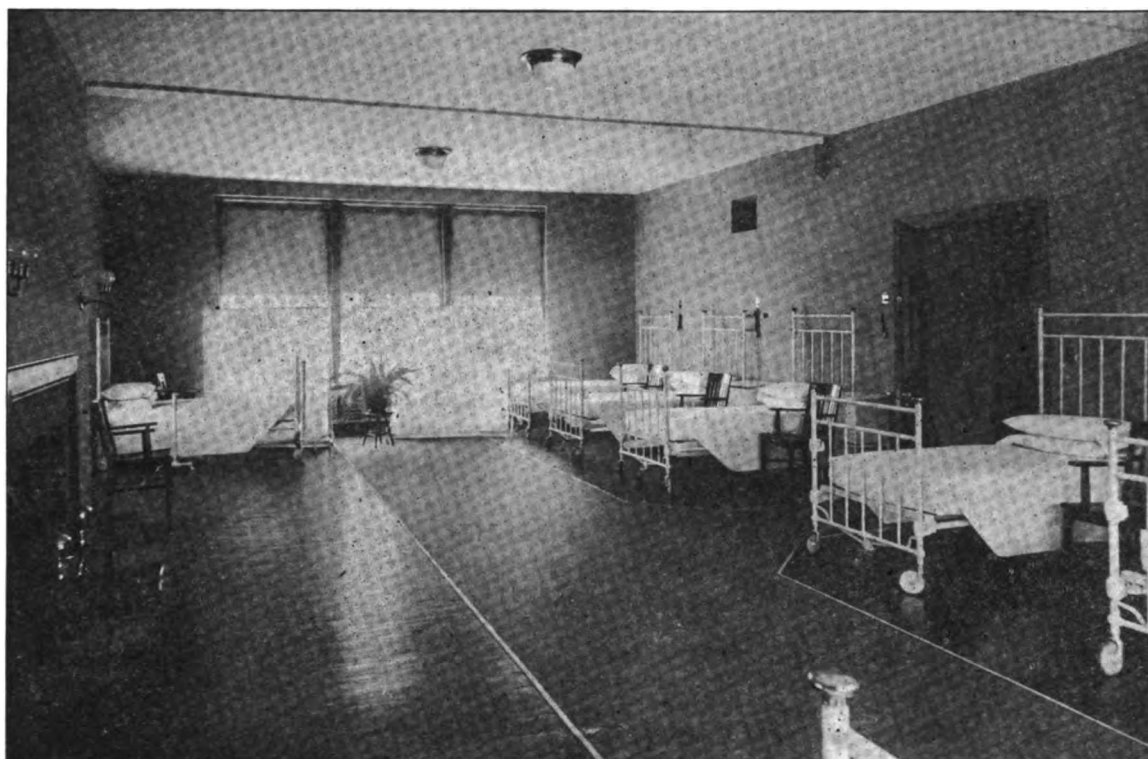
building. All power, such as heat, electricity, refrigeration, etc., is received from the power house of the Medical School, which is connected by a tunnel with the sub-basement of the hospital. The main heating system of the hospital is indirect and provides ventilation; air previously washed by being passed through jets of water, a process which removes practically all dust, is blown into the rooms. The humidity of this air is easily regulated by the temperature to which it is heated before being washed. An accessory direct steam-heating system has also been installed. All refrigerators both of the laboratories and of the kitchen are cooled by means of brine coils.

The hospital staff is as follows: E. E. Tyzzer, director; Thomas Ordway, physician-in-charge;

The maximum capacity of the hospital with the present arrangement is twenty-five beds, although as yet equipment has been provided for only twenty. The in-patients will naturally fall into three groups, although there will undoubtedly be overlapping in certain of these, — pay patients who are able to pay something for service; charity patients, not included in the group for special research, who are unable to pay anything; and research patients comprising a group for intensive study. The study of a group — leukemia, lymphoma including lympho-sarcoma, and Hodgkins' disease — has been undertaken, since such cases are peculiarly adapted for investigation in this institution, being for the most part non-surgical in character.

Although the primary purpose of the hospital





Ward of the Collis P. Huntington Memorial Hospital.

is to afford opportunity for the investigation of cases of malignant tumors in human beings, it is planned not only to study tumors in the incurable stage, but at their very inception, in order to increase knowledge concerning the natural history of the various types. While it is not proposed to undertake major surgical operation for the eradication of tumors, it should not be inferred that this institution is opposed to operative procedure or has up to the present time any adequate substitute for this form of treatment. While primarily erected for investigation, the hospital, through the facilities it will ultimately afford in the way of diagnosis and familiarity with various types of tumors, should be of public service and stand more or less in the position of a clearing house with regard to tumor cases.

The admission of patients to the hospital will depend upon their general condition and upon the location and variety of the tumor. The duration of their stay will necessarily be determined by the number of beds available. Patients applying to the hospital are expected either to present a letter from, or to be accompanied by, their attending or family physician.

#### ANTERIOR METATARSALGIA AND MORTON'S DISEASE.

BY A. MACKENZIE FORBES,

Surgeon-in-Charge of the Children's Memorial Hospital; Surgeon-in-Charge of Orthopedics, Montreal General Hospital.

THE affection bearing the name of "Morton's disease" was first described by Thomas G.

Morton, of Philadelphia.<sup>1</sup> Morton, in his historic description of the affection, attributes the pain which is symptomatic of anterior metatarsalgia when affecting the fourth toe (Morton's disease) to a bruising or pinching of the digital branches of the external plantar nerve. These are his words: "To the peculiar position which the fourth metatarso-phalangeal articulation bears to that of the fifth, the great mobility of the fifth metatarsal, which, by lateral pressure, is brought into contact with the fourth, and, lastly, the proximity of the digital branches of the external plantar nerve, which are, under certain circumstances, liable to be bruised by or pinched between the fourth and the fifth metatarsals, may be ascribed the neuralgia in this region."

About thirteen years later Pollosson, of Lyons, suggested that the affection described by Morton as a neuralgia of the interosseous nerve lying between the fourth and fifth metatarsal bones be included with what were considered similar affections of the other toes, under the more comprehensive term "anterior metatarsalgia." The writer believes that this suggestion was universally accepted. A year ago he published his *credo* regarding these two affections in two articles discussing the operative treatment of anterior metatarsalgia.<sup>2</sup> In this the hypothesis of the oneness of anterior metatarsalgia and Morton's disease was taken as being beyond dispute. Since these were published, so many points in this theory which in the past were hard to understand

<sup>1</sup> Am. Jour. Med. Sci., January, 1876.

<sup>2</sup> See, "An Operation for the Relief of Anterior Metatarsalgia, including Morton's Disease." Jour. Am. Orthop. Ass., February, 1911.

have been brought up and reconsidered that to-day the writer recants from the belief that Morton's disease can be included as anterior metatarsalgia.

For nearly two years a physician who has been suffering from symptoms similar to those described in Morton's original monograph has been under the writer's observation. His principal complaint was not the dull, aching pain so constantly complained of by those suffering from anterior metatarsalgia, but, rather, the sharp, lancinating and occasional pain described by the earliest writers as characteristic symptoms of Morton's disease. The patient had been treated for more than one year with the ordinary methods applicable to anterior metatarsalgia, when he became the subject of special study because his symptoms were unrelieved and because he still complained of sharp, lancinating pains, pains which were described as peculiar to the member and part complained of. An examination was made and to our surprise it was found to be an easy matter to produce by lateral pressure, in the region of the heads of the metatarsals, not that characteristic pain of anterior metatarsalgia, but the sharp, lancinating pain which he had originally complained of, and, further, by such pressure coincidentally with the advent of the pain a distinct clicking noise was heard and a displacement of the fifth metatarsal was suggested. A skiagram of the foot whilst subject to this pressure was taken. This demonstrated a very definite displacement which is well shown in the accompanying illustration.

When the foot was released from pressure the pain ceased and the displaced fifth metatarsal seemed to slip back into place. What a different picture both of the symptoms and of the lesion is this from that of anterior metatarsalgia, the latter demonstrating the depressed heads of the metatarsals and a posterior superior subluxation of the toes.

It seems to the writer that the history of this patient's complaint with the comparison of the accompanying radiograms should suffice to suggest the possibility of an error having been made in accepting the view that Morton's disease can be classified as anterior metatarsalgia.

The writer believes that the term "anterior metatarsalgia" should not be taken to include Morton's disease, but, rather, that there are two distinct affections with probably a common etiological factor in the majority of cases, but with a distinctly different pathology and a more or less distinctive symptomatology. Further, the writer believes that the treatment must in severe cases necessarily differ. The operation proposed by him<sup>2</sup> can hardly be indicated in a patient presenting the true clinical picture as painted by Morton, although clinical experience has proven its value in patients suffering from anterior metatarsalgia exclusive of Morton's disease.

**SMALLPOX AT AUGUSTA.**—Report from Augusta, Me., on June 10, states that smallpox is at present extensively epidemic in that city.

<sup>2</sup> "An Operation for the Relief of Anterior Metatarsalgia, including Morton's Disease." *Am. Jour. Orthop. Surg.*, February, 1911.

## ABDUCTION OF THE SHOULDER. AN INTERESTING OBSERVATION IN CONNECTION WITH SUBACROMIAL BURSTITIS AND RUPTURE OF THE TENDON OF THE SUPRASPINATUS.

BY E. A. CODMAN, M.D.,

Assistant Visiting Surgeon, Massachusetts General Hospital.

THE point to which I wish to call attention is so obvious that it may appear ridiculous to place it on record. Nevertheless, since I have myself been stupid enough to overlook it in studying with minute attention to detail several hundreds of cases of shoulder lesions, I feel that there may be others who can benefit by having it brought to their attention. Dr. Mayo may have felt the same need of an apology in calling the attention of surgeons to the arrangement of veins at the pylorus, though doubtless now every surgeon thinks that he himself always knew this extremely useful landmark!

Recently in demonstrating to some students a case of subacromial bursitis due to a partial rupture of the supraspinatus, the patient called our attention to the fact that when he leaned over with his finger tips near the floor he could move his shoulder much more easily.

The reason and importance of this fact was at once clear to me, although I doubtless had had many patients speak of the same phenomenon before. *When a person stands with the knees straight and the finger tips close to the floor, the humerus is abducted on the scapula by gravity alone without muscular effort.*

From a clinical point of view this fact is of great value in both diagnosis and treatment.

A striking clinical experiment can be made by utilizing this fact in the acute cases of subacromial bursitis which I have called Type I, or the spasmodic form, in previous papers.<sup>1</sup> The patient usually presents himself a few days or a few weeks after the injury to the shoulder and alleges that he cannot raise his arm. You attempt to raise it for him and find that you are prevented by the protective spasm of the muscles. Ask the patient to bend over and touch his finger tips to his toes. This he will readily do because the abduction is performed by gravity alone and he is not required to put his tender supraspinatus on the stretch. When he is down in this position you will observe that his shoulder is completely abducted as the axis of the spine of the scapula is parallel with the axis of the shaft of the humerus. If you then lift the patient's arm and at the same time ask him to stand up straight, he rises until the axis of the arm is vertical and pointing toward the ceiling. The act is accomplished without pain, and in surprise he holds the arm in this position himself. His pleased and foolish smile in finding the impossible accomplished is very amusing.

In the descent of the arm to the side, however,

<sup>1</sup> *Boston Med. and Surg. Jour.*, vol. cliv, no. 22, pp. 613-620, May 31, 1906; *Med. Communit. Mass. Med. Soc.*, vol. xxi, No. 1, 1908, pp. 277-358; *Boston Med. and Surg. Jour.*, vol. clxiv, no. 20, pp. 708-710, May 18, 1911; *Ibid.*, vol. clxv, no. 4, pp. 115-120, July 27, 1911.

pain is again felt as the supraspinatus is compelled to work against gravity. The usual consequence is that protective spasm keeps the scapula and humerus in the fixed relation of abduction, while most of the descent is accomplished by the abduction of the scapula on the chest wall. When this has reached its normal anatomical limit there is a sudden relaxation of a semi-voluntary character, and the angle of the humerus with the scapula changes with a jerk, the patient allowing the arm to drop to complete adduction. This change causes some pain as the sensitive point on the base of the bursa passes out from under the acromion. If you wish to spare the patient this unnecessary jog, you may tell him to lean forward again while you take the weight of his arm. When he has once more touched his finger to his toes, he can straighten up again and gravity will take charge of his adduction without pain.

In treatment, too, this observation can be utilized by beginning the mobilization of very acute cases and post-operative cases by simply having them lean the body forward with the arm hanging, instead of making them attempt abduction against gravity in the usual way.

This test also may serve to differentiate cases in which there is a question of whether the loss of abduction is due to spasm or actual limitation from adhesions. It may be of assistance, too, in determining the extent of the rupture of the supraspinatus.

Let the reader try for himself the effect of stooping forward, touching his toes, fixing his deltoids, straightening up again and finishing the abduction by rotation of the scapula on the chest wall.

In this connection it is interesting to compare the enormous mechanical burden imposed on the supraspinatus in vertical man as compared to his quadruped prototype. In man, the supraspinatus applies its power to a very short arm of a very long lever to raise a relatively great weight to a relatively great height. In the quadruped it merely helps swing the pendulum-like fore extremity on a little wider excursion than gravity would naturally take it, as the animal walks, trots or runs.

No wonder that partial rupture of the supraspinatus is the common accident when vertical man suddenly losing his equilibrium, throws his arm up to recover his balance!

Finally, let me say this, that, simple as this point to which I call attention is, its proper appreciation by the medical profession will materially help to relieve the suffering and hasten the recovery of *all* stiff and painful shoulders. Obvious and trivial as it may seem, I am sure that from now on it will prove of assistance in *every* shoulder case and should become of daily use in *every* large hospital clinic.

One needs to try it in but one acute case to realize its importance.

**IOWA PURE FOOD LAW.**—Report from Washington, D. C., states that on June 10 the Iowa pure food law was sustained as constitutional by the Supreme Court.

## THE HASTENING OF WOUND HEALING BY MEANS OF SKIN GRAFTING AND THE USE OF CERTAIN ORGANIC COLORING MATTERS.

BY JOHN STAIGER DAVIS, M.D.,

*Instructor in Surgery, Johns Hopkins University, Baltimore, Md.*

(Concluded from No. 23, p. 847.)

### COMMENTS.

GRAFTS of all types may be placed on fresh wounds or on healthy granulating surfaces. Immobility of the grafted area is important until the healing is complete.

The age of the patient has apparently little effect on the healing of the graft, as many of our complete takes were on cases over sixty years old.

It is best to cover the defect with a single large graft if possible, as the healing is just as satisfactory as if several small flaps were used, and the scar is much less. Buttonholing all grafts over 3 cm. in diameter, both thin and thick, is an exceedingly important point in the technic of skin grafting as it allows the free escape of any secretions which may collect beneath the grafts, and does not interfere in any way with the final healing.

Too much pressure on the newly grafted area and too voluminous dressings are to be avoided, and my belief is that neither of these facts have been given due importance. A molded wire netting over the grafted wounds will prevent this pressure, and allow free access of air.

Grafting, even if only partially successful, in the majority of cases will shorten the time in the hospital and accelerate final healing. Partial grafting by any method definitely stimulates the epithelial growth from the edges of the wound, even though the graft is placed at a considerable distance from the edges.

The shrinkage in the size of a wound after grafting is in some cases quite remarkable. Mild wound infections, such as pyocyanus, seem to have little effect on the ultimate healing of the graft.

Sensation begins to be restored to the transplanted skin within a few weeks. The nerve supply comes in from the periphery and not from the underlying tissues. The sensation of touch appears first, then pain, and lastly temperature sense. Careful massage of the surrounding skin and grafted area is important after the grafts are firmly healed.

Although skin grafting is being utilized each year more and more, nevertheless its value is not yet fully appreciated, and many cases are dressed week after week and allowed to heal by granulation which could be closed by grafting in a much shorter time, and eliminate, to a large extent, the chance of future cicatricial contraction.

### THE USE OF ORGANIC DYESTUFFS IN HASTENING WOUND HEALING.

We will now turn to another method of hastening wound healing. I was very skeptical when I began to experiment with scarlet red. It was difficult to believe that by the application of a

commercial dyestuff such rapid epithelial stimulation could take place in sluggish wounds, some of which had been unhealed for many years.

It has been suggested that possibly the wounds healed with scarlet red were in a period of development in which, after being inactive for a longer or shorter time the rapid epithelial growth would have taken place just as well under any other method of dressing. This may be true in a few instances, but I hardly believe it could have been so in the large number of cases reported, where the process of healing had been at a standstill until this dressing was begun.

In my own series of cases I have no doubt that personal supervision combined with the careful dressing is a factor which must be considered, but I hardly feel justified in attributing the marked success of the treatment entirely to this supervision.

Carrel, in his very interesting article on "The Treatment of Wounds,"<sup>10</sup> says that when at the end of the period of "granulous retraction" of a large wound the edges of the old epidermis are still at a distance of 20-25 mm., the new epidermis cannot spread on the granulations, and the cicatrization of the wound comes to a standstill.

Now, in practically all of the wounds which I have treated with scarlet red and amido-azotoluol, the period of "granulous retraction" had long since ceased, the period of epidermization had also come to a standstill and the areas were for the most part very large. In spite of these facts, in the large majority of cases there was marked epithelial stimulation from the hitherto sluggish edges following the application of the dyestuffs and subsequent rapid healing.

In papers published in 1909<sup>11</sup> and 1911,<sup>12</sup> I reported the results of my observations on the use of scarlet red and its component, amido-azotoluol, in stimulating the epitheliation of granulating surfaces. Comparatively little has been written on this subject in this country, but in foreign journals in the last three years a number of papers have appeared.

A brief history of the development of the clinical use of scarlet red may be of interest. Scarlet red was used exclusively as a commercial dye until 1900, when Michaelis<sup>13</sup> found that this coloring matter was very suitable for staining fat in the cellular tissues for microscopic examination. In 1906, B. Fischer, of Bonn,<sup>14</sup> in a paper on the "Experimental Generation of Typical Epithelial Proliferations, etc.," called attention to the fact that when a saturated solution of scarlet red in olive oil was injected under considerable pressure into the subcutaneous tissue of a rabbit's ear, an inflammatory condition was produced, with an increase of mitosis in the germinal layer of the skin, as well as in the hair follicles and skin glands. He found that the new formation of epithelium, which very markedly resembled skin carcinoma, showed no tendency for independent after-growth, and kept up only as long as the injections were made, and the scarlet red remained in the tissues. This is an important point and suggested to him

that it might be safely used clinically. Fischer was able to produce epithelial proliferation only in the skin, but Helmholtz<sup>15</sup> in the following year succeeded in creating similar growths in the mouth and rectum. He found that there must be close contact between the scarlet red oil and the epithelium in order that any reaction take place.

He showed that cylindrical epithelium in these experimental tumors remained so only as long as it lined a lumen, and when it formed in masses it changed into the squamous type, and just as readily returned to the cylindrical type when lumina formed in the epithelial masses. This metaplasia showed how different the process was from carcinoma, in which the character of the cells remains constant. This is also an important finding in regard to the clinical use of scarlet red.

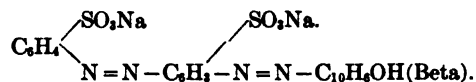
Since Fischer's publication a number of other investigators have repeated his experiments and extended them.

It is beyond the scope of this paper to discuss the different theories as to the cause and source of these atypical epithelial proliferations. However, I will mention an interesting point made by Claribel Cone, in a personal communication, which seems to bring some definite light on the subject. She says that in the epidermis of man the fat which is shown by the scarlet red stain is especially noted in the basal (germinal) layer at the point of contact of the cell body and nucleus; in other words, that the scarlet red attacks the living cell just at the point where physiological cell changes are most active, and she suggests that this may cause a chemical or physical stimulation to the cell and thus account for the active epithelial proliferation following its clinical use.

**Chemistry.** — There has been considerable confusion as to the formula of scarlet red, and I have received a number of inquiries about it. There are several chemically different dyestuffs which are marketed under the name scarlet red, and without doubt some of these substances produce epithelial stimulation to a more marked degree than others.

1. The dye used in my first series was the sodium salt of *diazo-azobenzene-disulphonic acid Beta naphthol*.

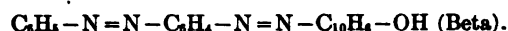
Commercial names: Biebrich Scarlet Red; Pouceau 3 R B; Pouceau B; Fast Pouceau B; New Red L; Imperial Scarlet. [Schultz & Julius (Green), 1904, p. 110, No. 163.]



**Method of preparation.** — Amido-azobenzene-disulphonic acid and Beta naphthol. It is a dark red powder, soluble in water and slightly soluble in alcohol. Insoluble in ether.

2. *Benzene-azobenzene-azo Beta naphthol*.

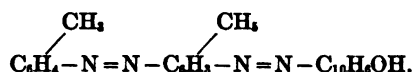
Commercial names: Soudan III; Cerasine Red. (Schultz & Julius, p. 106, No. 143.)



**Method of preparation:** Amido-azobenzene and Beta naphthol. It is a brown powder, soluble in alcohol and fats. Insoluble in water.

3. *Tolueneazotolueneazo Beta naphthol*. This is the scarlet red originally used by Fischer and Schmieden.

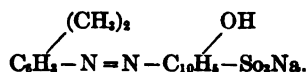
Commercial names: Oil Scarlet; Red B Oil Soluble Extra-concentrated; Pouceau 3 B. (Schultz & Julius, p. 108, No. 150.)



Method of preparation: Amidoazo-orthotoluene and Beta naphthol. It is dark reddish-brown powder which cakes at about 175° C. and melts at 184° to 186°. Insoluble in water, soluble in alcohol and chloroform, fats, fatty oils, and also warmed vaseline and paraffine.

4. *Sodium salt of xyleneazo Beta naphthol monosulphonic acid*.

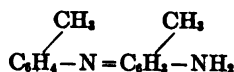
Commercial names: Scarlet G. R.; Brilliant Orange R; Orange L. (Schultz & Julius, p. 96, No. 54.)



Method of preparation: Xylidene and Beta naphthol monosulphonic acid. It is a cinnabar red powder, soluble in water.

On account of difficulty in obtaining the dye used in my first series of experiments I have been using the so-called scarlet red employed by Fischer and subsequently by most of the German investigators. Hayward says that in the few cases reported where no result was attained this special dye was probably not used, but I have had equal success with both of these dyestuffs.

The question naturally arose as to whether Beta naphthol or the other constituent of the scarlet red used by Fischer caused the stimulating effect. Hayward tried Beta naphthol clinically and found that it caused only marked irritation, and this has also been my experience with Beta naphthol ointment. Experimenting further Hayward<sup>18</sup> found that the other component of this scarlet red, amido-azotoluol, caused a more marked stimulating effect on the growth of epithelium than did the scarlet red itself, and felt convinced that this was the stimulating portion of the dyestuff. Its formula is:



It does not seem possible that amido-azotoluol alone is responsible for the epithelial stimulation, as a number of observers, myself included, have noted very favorable results produced by the clinical use of dyestuffs which do not contain amido-azotoluol. In fact, the power of stimulating epithelial growth is not confined to scarlet red and amido-azotoluol, but a number of other dyestuffs also have this property. However, scarlet red and amido-azotoluol have been studied more carefully than any of the others, so only these two materials will be considered.

Clinical use: Schmieden<sup>17</sup> was the first to follow Fischer's suggestion that scarlet red be

used therapeutically, and in February, 1908, published a paper on his clinical results.

Since this report the great interest in the clinical use of scarlet red and amido-azotoluol can be gathered from the fact that, roughly speaking, over forty papers have appeared on the subject. The tone of practically all of these articles has been enthusiastic, and I have had a large number of personal communications reporting favorable results.

These papers report granulating wounds of varying etiology in every situation healed rapidly by the use of these dyestuffs. In addition to skin defects, ulcers of the mucous membranes of the mouth, nose, vagina and cervix, and even corneal defects and perforated tympanic membranes have yielded promptly to this treatment.

Schmieden stated that it was useless to apply the scarlet red ointment to anything but a clean, granulating wound; and this has been agreed to by nearly all the other investigators. Of course the most rapid results are obtained on such wounds, but it has been my experience, as well as that of Kaehler<sup>18</sup> and Auerbach,<sup>19</sup> that there is marked epithelial stimulation even when the wounds are unhealthy and the discharge is profuse, and a great deal of progress can be made while the granulations are being brought into a healthy condition.

Scarlet red and amido-azotoluol have no antiseptic properties so may be put up in balsam of Peru ointment, blue ointment, iodoform ointment, etc., and in these combinations we get the benefit of the antiseptic properties of the base, and at the same time the epithelial stimulation from the dyestuffs.

*Technic.* — An outline of the technic will suffice. Every effort should be made to bring the wound into a healthy condition as soon as possible.

Anoint the skin surrounding the defect with some bland ointment up to about 1 cm. of the wound edge, as this prevents possible irritation. Then spread the scarlet red or amido-azotoluol ointment in a thin layer on perforated old linen, and apply to the wound, either along the edges or over the whole surface. A light dressing of sterile gauze secured by a bandage completes the procedure.

The exact strength and combination of the ointment to be used on different types of wounds can hardly be dogmatically stated, as experience is necessary for this knowledge.

The strength of the scarlet red and amido-azotoluol ointment ordinarily used is 8% in a vaseline or vaseline and lanolin base, and it should be alternated every twenty-four to forty-eight hours with some bland ointment. By applying a weak ointment, say 4%, they can be used over longer periods.

I have applied scarlet red and amido-azotoluol ointment to a number of wounds, and then exposed them to the air and sunlight. The healing is rapid and the drying out of the surface most noticeable. It is safe to use these ointments on partial skin grafts of all kinds within forty-eight hours after grafting, and there is rapid stimulation

of the wound edges and also of the grafts themselves.

When these substances are used in corneal ulcers, white vaseline is the best base.

Scarlet red and amido-azotoluol gauze is made by immersing the gauze in an 8% alcoholic solution and then letting it dry out.

A mixture of castor oil containing 10% of alcohol will take up 4% of scarlet red and 8% of amido-azotoluol. This is a useful mixture and easy to apply with a brush.

Different per cents of finely divided scarlet red or amido-azotoluol can be rubbed up with boric, bismuth or any other dusting powder, and is advantageous for insufflation in the nose and for drying up small wounds, the healing proceeding rapidly under the scab thus formed.

The ointments are prepared by rubbing up the scarlet red or amido-azotoluol with a small amount of almond oil until a smooth mass is formed, and then this mass is thoroughly mixed with the base. Both ointments may be sterilized without effecting the stimulating power of the preparations.

#### COMMENTS.

In my first series of cases I used a water soluble dye and in many instances the dye was absorbed and excreted by the kidneys. However, since the dye used by Fischer and Schmieden has been employed, which is not soluble in water, I have at no time noticed its excretion by the kidneys.

In one instance only has amido-azotoluol been excreted in the urine, and this occurred only once, although the extensive wound was dressed in the same way a number of times subsequently with the same material.

I was able to compare the rapidity of healing caused by scarlet red and amido-azotoluol. Following an extensive burn, there were two granulating wounds of about the same size. One was dressed with 8% scarlet red ointment, and the other with 8% amido-azotoluol ointment. The healing in both was rapid, but the wound dressed with amido-azotoluol healed first. The character of the healing was practically the same.

The age of the patient seems to have little effect on the stimulating power of these ointments as several satisfactory results have been on patients over eighty years old. The general health of the patient is most important, and in some instances forced feeding, fresh air and tonics must be resorted to.

It is interesting that a number of patients with exquisitely painful ulcers have remarked that there is less discomfort after dressing with these substances than after any other dressing, however bland.

When scarlet red is used the importance of careful dressing and frequent observation is to be emphasized on account of the irritation occasionally caused by it. This is especially noticeable in women and young children, and where the wound is surrounded by thin skin over old scar tissue.

In none of the cases have I noted the slightest irritation of the surrounding skin following the

use of amido-azotoluol. Although 8% amido-azotoluol can be used continuously without irritation, it is best to apply it for forty-eight hours, and then alternate with some bland ointment for twenty-four hours.

Dressing with both substances causes excess of secretion for one or two applications, but there is marked drying out of the granulations in a short time.

There is sometimes a difference in the degree of stimulation caused by these ointments on different portions of the epithelial edges of the same wound.

A grayish membrane is often seen on the granulations after the application of scarlet red ointment. I have not observed this formation following the use of amido-azotoluol.

The use of scarlet red and amido-azotoluol in blue ointment is advantageous in the treatment of syphilitic ulcers, and in addition constitutional treatment should always be employed.

In the treatment of second degree burns the ointment can be used immediately after the blisters have been cut away. In third degree burns it is best to wait until the granulations have started.

For a time after healing, the newly-formed skin has a tendency to be dry and somewhat scaly, but this is easily overcome by the application of olive oil or vaseline.

I have not yet seen a wound break down which was healed by the use of scarlet red or amido-azotoluol, although some of the cases have been under observation for over three years.

The pigmentation of the newly-formed pink skin on negroes is an interesting process. Within a short time the sharply defined edges of the normal skin become wavy and streaks of pigmentation project from it. Here and there isolated patches of pigment appear, some of which are several centimeters from the pigmented skin edges. The pigment spreads from these patches also, and the entire area becomes dusky and later assumes the color of the surrounding skin. This seems to show that the pigment is derived from the deeper tissues as well as from the skin edge.

The sensation in the newly-formed skin begins at the margins and gradually spreads toward the center. Both these processes are similar to those taking place in skin grafts.

Thiersch and Reverdin grafts are sometimes tremendously thickened following early dressings with these substances, and this is especially noticeable when amido-azotoluol is used, but this thickening disappears within a few weeks.

I have dressed very large granulating areas for some time with these substances without any deleterious effect, and as a rule there is no toxic action either from scarlet red or amido-azotoluol. Gurbiski<sup>20</sup> reports the only case in which any general toxic effect was noted, as follows:

A child, eleven years old, was severely burned by an explosion of turpentine. The lower two thirds of the thigh and the entire leg to the ankle were involved. After the granulations had formed,



Gurbski applied 8% amido-azotoluol ointment. Fifteen hours after the application the patient, who had previously been in very good health, began to complain of headache and dizziness. This was followed by violent vomiting and gastralgia. The pulse rose to 110 and was of low tension. The temperature rose to 102.38°. There was cyanosis of the lips and albumin in the urine.

The dressing was removed and the patient placed on a milk diet. In a few hours all of these phenomena disappeared. Eight days later amido-azotoluol ointment was again applied and the same symptoms reappeared with the exception of the albuminuria. A third dressing five days later caused the same symptoms, except that the vomiting was less marked.

During the rest of the treatment he applied the ointment to only one fourth of the wound at a time, and the toxic symptoms did not again occur. Rapid healing followed.

Gurbski thinks the poisoning was due to the amido group in the amido-azotoluol.

The consensus of opinion is that there is no danger of producing malignant growths by the clinical use of these substances. My own experience with a number of cases has convinced me of this, and although occasionally there is an overgrowth of epithelium, this soon assumes the level and the appearance of the normal skin.

Some of the authors have gone so far as to state that by the use of scarlet red and amido-azotoluol the majority of skin grafting can be eliminated. This is too broad a statement, but there is no doubt that wounds can be healed by these dyestuffs which could not otherwise be satisfactorily closed except by grafting.

Scarlet red and amido-azotoluol will not heal every granulating wound, but in the majority of cases, when applied with the proper technic, they will cause epithelial stimulation in the edges of the most sluggish wounds and give a rapid healing which is stable and resistant, and which has the macroscopic and microscopic appearance of the normal skin. There is no tendency to subsequent contraction, and the skin becomes movable on the underlying tissues in a reasonable time. Any one of these characteristics would make the use of these substances well worth trying.<sup>21</sup>

## REFERENCES.

- <sup>10</sup> Jour. Am. Med. Assn., Dec. 17, 1910, p. 2148.
- <sup>11</sup> Johns Hopkins Hosp. Bull., No. 219, June, 1909, p. 176.
- <sup>12</sup> Ann. Surg., May, 1911, p. 702.
- <sup>13</sup> Quoted by Reinhardt: Apoth.-Ztg., no. 10, Feb. 10, 1909, p. 90.
- <sup>14</sup> München. med. Wochenschr., no. 42, Oct. 16, 1906, p. 2041.
- <sup>15</sup> Johns Hopkins Hosp. Bull., September, 1907, p. 365.
- <sup>16</sup> München. med. Wochenschr., no. 36, Sept. 7, 1909, p. 1836.
- <sup>17</sup> Zentralbl. für Chir., no. 6, Feb. 8, 1908, p. 153.
- <sup>18</sup> Med. Klin., Nr. 22, 1908, p. 836.
- <sup>19</sup> Klin. therap. Wochenschr., Nr. 14, 1909, p. 594.
- <sup>20</sup> Zentralbl. für Chir., Nr. 49, Dec. 3, 1910, p. 1550.
- <sup>21</sup> The complete bibliography on scarlet red and amido-azotoluol can be found by combining the references found in articles by Davis: Ann. Surg., May, 1911, p. 703; and Schmieden and Hayward: Deutsche Zeitschr. für Chir., Bd. 112, 1911, p. 467.

**A LIVING CENTENARIAN.**—Mrs. Lemuel Cox, of Malden, Mass., who is said to have been born on June 11, 1812, celebrated her supposed centennial anniversary on Tuesday of this week. She has four living grandchildren and is in excellent health.

## Reports of Societies.

## HARVARD MEDICAL ALUMNI ASSOCIATION.

## TRIENNIAL MEETING.

The triennial meeting and dinner of the Harvard Medical Alumni Association were held in Boston on Wednesday, May 22, 1912, under the presidency of Dr. J. COLLINS WARREN, of this city.

In the afternoon the following program of exercises, arranged by Dr. HAROLD C. ERNST and Dr. MILTON J. ROSENAU, acting as a committee, was carried out. The demonstrations were given in the amphitheater of Building D of the Harvard Medical School, and were attended by over three hundred graduates and others.

3.00 P.M. DR. HERBERT B. HOWARD: "A Brief Outline of the Peter Bent Brigham Hospital." With lantern slides.<sup>1</sup>

3.15 P.M. DR. S. B. WOLBACH: "The Possibilities for Instruction and Investigation in Tropical Diseases in Northern Climates." With lantern slides.

3.30 P.M. DR. F. G. BENEDICT: "The Carnegie Nutrition Laboratory; Its Work—especially a Recent Experiment on Prolonged Fasting." With lantern slides and demonstration of the patient.<sup>2</sup>

3.45 P.M. DR. HOWARD T. KARSNER: "The Function of the Experimental Method in the Course in Pathology."<sup>3</sup>

4.00 P.M. DR. R. W. LOVETT: "The New Children's Hospital." With lantern slides.<sup>4</sup>

4.15 P.M. DR. E. E. SOUTHARD: "The New Psychopathic Hospital." With lantern slides.<sup>5</sup>

4.30 P.M. DR. M. J. ROSENAU: "The Department of Preventive Medicine and Hygiene, and the Degree of Dr.P.H."<sup>6</sup>

4.45 P.M. DR. E. E. TYZZER: "The Huntington Hospital and the Scope of its Work." With lantern slides.<sup>7</sup>

At 5 P.M. many of those present availed themselves of the opportunity to inspect the various departments and hospitals.

In the evening, at 7 o'clock, the triennial dinner of the Association was held at the Hotel Somerset, Boston, and was attended by an enthusiastic gathering of 312 alumni and invited guests. The president, Dr. J. COLLINS WARREN, occupied the chair, and introduced the speakers.

Dr. Warren's own address is printed in full in another column of this issue.<sup>8</sup> In referring to the social aspects of medical student life Dr. Warren alluded to the following letter which he had received and which is here reprinted in full:

## SOCIAL ASPECTS OF MEDICAL STUDENT LIFE.

HARVARD MEDICAL SCHOOL,  
May 9, 1912.

Dear Dr. Warren,—Your well-known interest in the welfare of the Harvard Medical School and its students, and your numerous activities on their behalf, encourage us to write to you upon a subject which is of vital concern to us all.

We need not say that every student among us is proud of his medical school. Its incomparable plant, generous policy and rapidly expanding clinical facilities place it undoubtedly in the front rank of educational institutions. It seems to us unfortunate, therefore,

<sup>1</sup> See JOURNAL, page 876.

<sup>2</sup> See JOURNAL, page 878.

<sup>3</sup> See JOURNAL, page 879.

<sup>4</sup> See JOURNAL, page 880.

<sup>5</sup> See JOURNAL, page 882.

<sup>6</sup> See JOURNAL, page 886.

<sup>7</sup> See JOURNAL, page 887.

<sup>8</sup> See JOURNAL, page 875.

that, since the beginning, the personal and social welfare of the students has been neglected. The inevitable result of this, it seems to us, has been a lack of solidarity in the classes, the student body, and even the alumni in whom largely the future strength of the institution rests.

The average individual enters the school a stranger, quite at sea in his new surroundings, and is likely to remain so a considerable time unless he possesses unusual initiative along social lines. He is apt to live a lonely and laborious existence, without exercise or chance for relaxation and companionship. Yet one of the chief aims of the school should be to promote stimulating friendships among its students, and thereby to foster in them a sense of loyalty to each other and to the profession.

The classes, too, propelled "*en bloc*" through the prescribed four-year course by the present concentration method of instruction, drop cleanly off at the end like icebergs from a glacier, with few ties of society or of common interest to bind them to the classes gone before or to those pressing behind.

It is not beside the point to say that the attractiveness of the school as a whole suffers from the neglect of this side of student life. The Dean recently remarked in an address to the graduating class that he looked back upon his medical school days with very little pleasure indeed, unlighted as they were with any outcropping of class spirit or social enterprise. Notwithstanding our magnificent plant, we do not attract as many young men as the Law School, which, to its favorable location and shorter course, adds the advantages of adjacent dormitories and the Harvard Union.

Certain small but hopeful beginnings, originating mainly within the student body, have been made along desirable lines with the intent to alleviate some of the harsh conditions of student life. The formation of the "Students' Association," with its pleasant lounging room and library in the administration building, the establishment of an advisory committee of upper-classmen to welcome and assist incoming students, the building of tennis courts, and the attempt of the present graduating class to initiate a class-day celebration are signs that the students themselves are mindful of the deficiencies and are interested in supplying them as far as they are able.

The students, however, cannot supply what seems to us to be the one imperative need at the present time: namely, a *dormitory and club-house near the school*. Whether these were separate or in the same building, they would fulfil a number of functions of undoubted service and importance. There is no shadow of doubt that a large percentage of the student body, particularly in their first and second years, would gladly utilize the dormitory; and with the opening of five great hospitals on adjacent territory, upper classmen will find it more convenient to live near the school than down town. Graduate students, returning to study for a period of months, would welcome such an addition to the school. A café where good food could be obtained at reasonable prices has been a crying need for years. A gymnasium with showers or a tank; a library; a dining room large enough for class and alumni banquets; rooms for club-meetings, reunions, and amusement,—in short, a Harvard Medical School Union,—has been a dream once fantastic and impossible, but whose realization seems to be demanded by our ideal of a great medical school which shall be in all its departments, the best.

The pursuit of a medical education must always be attended by unrelenting labor and a sustained, undeviating purpose. But we cannot help feeling that a

humanizing amount of social activity will be good not only for the student, but for the school and the profession.

Yours very respectfully,  
 L. W. HACKETT,  
*Chairman, Class-Day Committee.*  
 PHILIP D. WILSON,  
*President, Fourth Year Class.*  
 WM. P. BUFFUM, JR.,  
*President, Third Year Class.*  
 THOMAS A. FOSTER,  
*President, Second Year Class.*  
 WALTER D. EDWARDS,  
*President, First Year Class.*  
 JOHN FAVILL,  
*President, Students' Association.*

DR. JOHN COLLINS WARREN,  
 58 Beacon Street, Boston.

Dr. Warren then introduced PRESIDENT ABBOTT LAWRENCE LOWELL, of Harvard University, who was greeted by a rising cheer and prolonged applause.

President Lowell spoke of the present, with all its splendid fruition, as a time of sowing rather than of harvest. "Despite present improvements," he said, "we have still much progress to make in the art of medical as well as of collegiate teaching.

"We are too apt to treat students as freight rather than passengers, as things to be instructed rather than human beings. I feel we are too fond of treating the student as if he were a *pâté de fois gras*, a goose to be stuffed.

"We fail to think the opinions of students about their education are of any value. Yet their opinions are just as good as ours and besides, theirs are fresh, while ours are canned.

"We want an opportunity," he continued, "to have clinics with all the hospitals in the city. We are calling men from other parts of the country as educators. We have two eminent ones here to-night. One is a professor of surgery and the other of medicine."

In introducing the next speaker, DR. EDWARD H. BRADFORD, the newly appointed Dean of the Harvard Medical School, Dr. Warren read the following letter from DR. HENRY A. CHRISTIAN, Dr. Bradford's immediate predecessor in office.

#### DR. CHRISTIAN'S LETTER.

BOSTON, MASS., April 29, 1912.

Mr. President and Alumni of the Harvard Medical School,—I regret that I cannot be present at your triennial meeting. As you know, I have gone abroad with several of my colleagues to spend five months in studying foreign clinics preparatory to beginning in the autumn work at the Peter Bent Brigham Hospital. Though necessarily absent, I wish to report briefly on the work of the Medical School during the three years that have elapsed since your last meeting.

In May, 1909, after your dinner at the Hotel Somerset, I referred to a proposed new Department of Preventive Medicine and Hygiene with a distinguished head. That department is now in a flourishing condition, and we begin to realize our good fortune in having as its distinguished head Professor Rosenau. Under him have been developed the courses leading to the degree of Doctor of Public Health, the first of its kind. Then our need of hospitals to complete our plant was mentioned. To-day the Huntington Memorial, the Infants', the Children's, the Peter Bent Brigham and the Psychopathic, completed or under construction, group about our laboratories as a material token that the well-conceived needs of the Medical School are speedily provided, that the dreams of one decade do not require

to await a new decade for their realization. A cordial co-operation on the part of these new institutions has carried to our clinical chairs the same freedom of choice that has long existed in our laboratory departments. Closer, too, have been drawn the bonds of co-operative interdependence between the old hospitals of Boston and the Medical School. You of the Alumni will be glad to know that the teaching facilities so generously furnished to us in your day by the Massachusetts General Hospital, the Boston City Hospital, and the Lying-In Hospital, are still to be utilized in full measure, and if the signs of the times are read aright, in fuller measure than ever before and with increasing closeness of bonds because school and hospital are each to the other of real value. Strong bonds of union have been made with other hospitals, such as the Free Hospital for Women, the Infants' Asylum and the Children's Department of the Boston Dispensary, so that the boast of unexceeded clinical facilities for the Harvard Medical School is no boast, it is a fact.

The Summer School, organized under a director following your last meeting, has thriven greatly, and now all graduate instruction has been organized in a stronger administrative unit under Dean Arnold. The internal organization of the Medical School has been greatly improved by two changes, — the creation of an elective faculty council made up of the chairmen of divisions composed of allied departments, and a great improvement in the methods of university accounting, both making for the solidarity of the Medical School. A new system of examinations has been evolved, and many improvements have been made in the various departments. Each of the last three entering classes has shown an increased number, and there is a steady widening of the geographic distribution of our student body.

Three years ago, standing before you as the new dean, I was thrilled with the feeling that the support of such an alumni body was an exceedingly important factor in the school's development, that the school might count on that support and that the dean would be helped in every way possible as the titular leader of a faculty body in which you put your trust. These few years as dean have brought to me many pleasant opportunities of contact with the alumni; always you have responded most cheerfully to demands made upon you. For all this I have been profoundly grateful. To have served as your dean has been an honor of which I am deeply appreciative. A new dean, Dr. Bradford, takes my place, a strong man of large mind, one whom we know and admire, a leader we shall be glad to follow. To him will go your most loyal support. He will need much. We have already formulated for him one small need, that of a million and a half of dollars for the clinical work. He will tell you of other needs. I believe he will see the fulfillment of his desires if we but back him up when he goes before the people. The school I feel sure is sound through and through, filled with optimism and destined to be the acknowledged chiefest of American Medical Schools, one of the world's great institutions.

Yours truly,

HENRY A. CHRISTIAN.

DR. BRADFORD, when introduced, was greeted with great applause. He spoke as follows:

#### ADDRESS BY DR. BRADFORD.

In offering thanks for your welcome to the new dean, may he venture to express his belief that he will need all possible help and support of the Alumni. The office of a dean was formerly one of great dignity.

In American colleges and schools, however, it has too often deservedly shrunk to a position receiving and often deserving criticism.

If it is the function of the dean to serve in a way as a director of the Faculty, the Alumni may act as a check or control upon the dean, and it is for this reason that it is proper that each year the dean should make his appearance before you. My path has been made incomparably easier by the admirable work of my predecessor. Dr. Christian has adjusted methods of administration of the school in the last three years to the changed and enlarged conditions of affairs in a way which can only be appreciated by one who becomes familiar with the details of the dean's office.

An excellent department which was organized by Dr. Christian and which is administered by Dr. Dexter deserves to be better known by the Alumni. It is the Department of Students' Aid, which aims to aid the students who may be in need by temporary loans.

Dr. Dexter is anxious to obtain suitable occupation for students during the summer vacation and reports that many of them can aid physicians or act as nurses, attendants, tutors, etc., and is desirous that the fact may be made known to the alumni.

The school lacks a suitable bureau of publicity and it may be suggested that the Alumni Association can be made to serve for that purpose.

The school has of late been the object of some uncalled-for criticism which it might be well to correct.

The wisely-laid plan of a great medical university requires time for development and as it would be unjust to criticise the inadequacy of a building when only one story has been completed, so to claim that the Harvard Medical School gave too much attention to laboratory support is an unfair one, if applied while the arrangements for enlarged clinical facilities were not concluded, although provided for.

At present, the provision for practical clinical instruction at the Harvard Medical School is unsurpassed in this country and it soon will be the equal and in some respects superior to that known to exist in any part of the world.

The expansion of the laboratories and the transition from their previous contracted condition to their present enlarged accommodations taxed heavily the administrative abilities of several of the departments, but in spite of this the amount of valuable scientific work accomplished in the last three years is remarkable. Practitioners hardly as yet realize what a debt they will owe in the future treatment of their patients to the recent investigations made in almost all the laboratory departments, which touch fundamentally all branches of medicine. The details of these are too numerous to mention in the few moments possible here. A visit to the school will demonstrate this.

Some criticism has been made through ignorance as to the numbers of the students. Owing to the raising the standards of admission, the numbers of those applying for the undergraduate courses at first was reduced; this is each year increasing. There has been a corresponding though greater increase in the numbers taking post-graduate courses of the school. During the past year over seven hundred students in all were enrolled receiving instruction under direction of the professors and instructors of the school, a small number compared to the future teaching capacity of the school, but as many as it is desirable to care for in the first preliminary years of instruction in the new Medical School buildings.

The alumni may rest assured that the future of the school is secure. Progress may be hampered, but not checked, by poor administration, and as criticism furnishes the antibody to inertia and incompetence,

it may be suggested to the Alumni that as the chief function of the dean is to receive and profit by all such assistance, criticism of the new dean will be in order next autumn.

The next speaker, DR. HENRY B. FAVILL, of the Rush Medical School, Chicago, spoke of the practice of medicine as a public function, asserting that "the conception of the state as to the public health is undergoing great change. In the future, we must bring to every door, no matter how poor, all the aid of medical science." Dr. Favill also described at length the essential qualities of a medical school and the demands of medical education, and spoke highly of the opinion in which the Harvard Medical School is held throughout the country.

DR. HORACE D. ARNOLD, the newly appointed dean of the Harvard Graduate School of Medicine, outlined his plans and policies for the development of this important branch of medical training.

Dr. Arnold spoke in full as follows:

#### DEAN ARNOLD'S ADDRESS.

The organization of graduate medical instruction on a university basis is a most important step forward in medical education. Harvard University is to be congratulated on being the first institution in America to undertake this work on a broad, comprehensive plan, and to place the graduate medical school on the same high level of scientific thoroughness that its regular medical school occupies. The Graduate School of Medicine is established as a department of the University, under the control of the Faculty of Medicine, but with its own Dean and Administrative Board.

The Dean was appointed Feb. 28, 1912, and shortly afterward the Administrative Board was organized by the appointment of Dr. E. H. Bradford, Dr. H. C. Ernst, Dr. A. Coolidge, Jr., and Dr. F. W. Palfrey, Secretary. The time that has since elapsed has been too short to enable us to complete our plans in detail, but substantial progress has already been made. We have about completed our general plans, — the foundation on which the superstructure will be erected, — and we are now ready to proceed with the organization of courses of instruction. We shall take actual control of the work Oct. 1. In the meantime graduate instruction will continue under the charge of the Medical Faculty until June 1, and then, as in recent years, under the director of the summer school, who is aided by a committee.

Probably few of you realize how much graduate teaching has already been done at the Harvard Medical School. From small beginnings nearly twenty-five years ago, this work has grown until during the last year four hundred and fifty-one students were enrolled in the graduate courses. We hope by developing opportunities as yet not fully utilized, and by broadening the scope of the work, to develop the largest and best graduate medical school in the country.

Our opportunities are excellent. The laboratory facilities are unsurpassed, our clinical material is abundant in hospitals closely allied to the Medical School, and there are plenty of men connected with these clinics who will make excellent teachers. The demand from graduates for adequate opportunities for further study is constantly increasing. We ought to have a successful school if we properly develop our resources to meet this demand.

To do this satisfactorily is too large an undertaking for any one man. It can only be accomplished by the co-operation of all concerned in the teaching, and it is with the greatest pleasure that I announce to you that I have found on every side enthusiasm for the

work and the heartiest spirit of co-operation. This warrants a confident prediction of success.

A catalogue of proposed courses has already been sent to the members of your association, but this represents only the courses already planned before the new organization took up the work. Still other courses will be planned and will be announced later. We shall offer adequate opportunities for study to those graduates who wish to review past studies, to those who wish to keep abreast of recent advances in medicine and to those advanced students who by investigation and research aim to extend the boundaries of medical knowledge still farther. We shall plan to meet the requirements both of those who wish a general course in medicine and of those who wish to study some special branch. A not unimportant feature will be a plan by which practitioners, — especially those within easy reach of Boston, — who cannot come for an extended stay, may yet have the opportunity of attending single exercises whenever they are able to do so. Special courses, with one or two exercises a week, will be organized for such physicians.

Graduate teaching will extend throughout the year. It will be divided into three terms of four months each, one term including the four summer months, and the other two corresponding to the first and second half-year of the Medical School proper. As far as possible the essential part of the instruction will be repeated in each of these terms.

A successful graduate school will be of benefit to the Medical School proper in several ways. It will bring here from all over the country physicians who will be impressed with the opportunities for medical study, and this should result in an increased number of undergraduate students. The necessary parallelism of courses in the two schools will lead to a healthy rivalry between teachers and each will be spurred to do better work. It will give many younger men opportunities to teach which could not be given in the Medical School proper, and this should result in the discovery of and development of valuable teachers, from whom the Medical School can draw for new material. Thus the Graduate School of Medicine will strengthen and not weaken the Harvard Medical School. Therefore we have a right to ask for the co-operation and help of this association. We ask you to give us your moral support, to aid us by suggestions and helpful criticism, and to help by spreading abroad among physicians information about the advantages for graduate study that may be found here.

The formal exercises were concluded by brief addresses from DR. HARVEY W. CUSHING, professor of surgery and surgeon-in-chief at the Peter Bent Brigham Hospital, and by DR. DAVID L. EDSELL, newly appointed Jackson Professor of Clinical Medicine at the Harvard Medical School, and physician-in-chief of one of the two continuous medical services at the Massachusetts General Hospital. After this the meeting broke up with three long cheers for Dr. Warren, and the singing of "Fair Harvard."

A BRITISH CENTENARIAN. — Mr. Osbaldeston Mitford, who died recently in Northumberland, England, is said to have been born in 1811. He spent his active career in the civil service in Ceylon. His descent was traced back to the reign of Edward the Confessor, the length of his pedigree being as remarkable as that of his life.

# THE BOSTON Medical and Surgical Journal.

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## THE DEVELOPMENT OF A MEDICAL CENTER.

THE papers and illustrations which are presented in this issue of the JOURNAL show in part the recent growth of some of the medical institutions which during the past five years have begun to associate themselves more closely with the Harvard Medical School. About the new buildings of this school, and of the Harvard Dental School, there have been erected or are in process of construction a number of hospitals and laboratories, which, when completely organized and in operation, will combine to form a remarkable center of medical education, practice and research. The development of this center should be matter of interest to all concerned in the future of medicine, for the erection of splendid institutions is fruitless without the presence of inspired workers to make them productive, and without the encouraging approbation of those who understand the purport of the labor. Many such workers are at hand, and others will come to join their ranks. It is the privilege of every medical alumnus to give his favoring support to the harmonious development of these institutions to their highest efficiency in the work which they have to perform for medical education in America and for the service and healing of humanity.

## THE CASE OF THE MIDWIFE.

In his presidential address last week at Atlantic City, on "The Best Means of Combating Infant Mortality," the president of the American Medical Association took occasion to express his approval of the midwife system, and to advocate the recognition, training and encouragement of midwives throughout the United States. And a paragraph under "Current Comment," in the issue of the Association's *Journal* for

June 8, in which this address appears, gives editorial sanction and approbation to the president's views. Before this policy is officially adopted, however, it may be well to consider where it will lead.

No doubt all would agree that the desideratum in obstetrics is that which will be best for the patients, and that as physicians in deciding for our patients we should decide as for our families and for ourselves. Would any of us choose a midwife to attend the mothers within his family circle? Will even trained midwives practice as good obstetrics as trained physicians? The midwife, from the very nature of her work and its remuneration, will always be a woman of capacity and qualification inferior to those of the trained nurse. Such a nurse, working among the poor, in co-operation with physicians, can be of much more service to pregnant and puerperal patients than can the midwife. This system leaves to the physician the care of the parturient patient, and places with him, where it belongs, the entire responsibility. This system, properly elaborated, would secure all the benefits claimed for the midwife system, and at great economy of administration. Rather than undertake the wholesale training of midwives "how to do a version in cases of emergency," would it not be better to devote our attention to raising the standard of obstetric instruction in our medical schools? The supposed need of midwives would cease to exist if all the medical students in this country were properly trained in obstetrics, and if among the poor the work of physicians were duly correlated with that of the trained visiting nurse. Under such circumstances it might be hoped that the specialty of obstetrics would in time be raised to as high a level as that of pediatrics, for example.

We are quite ready to accept as a compliment the terms in which the president of the American Medical Association refers to this JOURNAL, though his allusion to the writer of one of its articles as "a well-meaning author" might be capable of misinterpretation. In his own address on the "Significance of the General Practitioner," which we had the honor to publish in the issue of the JOURNAL for March 21, 1912, he emphasized the fact that the responsible person should go to the relief of distress, rather than send others in his stead. That is why every case of labor should be attended by the physician; that is why we believe the midwife should not be encouraged, recognized, or tolerated in an enlightened civilization.

## THE EXTERMINATION OF MOSQUITOES.

THE Italian campagna, since centuries before the Christian era, has been one of the most unhealthy spots on the earth's surface. It is probable that the Romans who conquered Greece brought malaria home with them. Greece in turn got the disease from India, that venerable region which conquered its conqueror, with a weapon mightier than the sword; for in his *Indiscretions de l'Histoire* Dr. Cabanes states that Alexander the Great himself died of a mosquito bite bearing intermittent fever. Both in Greece and in Italy, endemic malaria has done much to debilitate the inhabitants, as uncinariasis has done in our own Southern states.

Some two years ago, however, Dr. L. O. Howard, Chief of the Bureau of Entomology in the Department of Agriculture at Washington, visited Italy and found great changes in the campagna. The Italian Government has drained the marshes and has introduced intensive farming—with the result that this hitherto insalubrious region has been largely transformed. Where formerly were malaria-saturated, saffron-skinned, miserable peasants, there are now hardy and contented husbandmen.

There are American areas quite as mosquito-ridden, and hence as malaria-ridden, as was the Italian campagna; but such areas are gradually becoming fewer. The "Jersey mosquito," which is not the exclusive appanage of that commonwealth, breeds all along the coast from Massachusetts to Florida. This pest, the culex, though unusually robust, is not, however, disease-engendering. Anopheles (which alone transmits malaria) and Stegomyia (which alone transmits yellow fever) propagate in non-salt waters, in stagnant pools, even in houses.

The commonest varieties of mosquito, among which are those just mentioned, rarely travel one hundred feet beyond the place of their birth. The problem of mosquito elimination is therefore largely local. The only logical way to prevent mosquito-existence, and thereby malaria, is to destroy this insect's breeding places. These are almost invariably in any place where water can accumulate and remain quiescent for ten days or more, since the breeding takes place only in stagnant water. The oiling of waters or their removal by drainage are the essentials of prophylaxis. One ounce of kerosene oil will cover fifteen square feet of water surface.

Some communities which have engaged in the effort to exterminate mosquitoes have been disappointed in the results; this is very likely

because the work of extermination has not been thorough, because certain breeding places have been overlooked. Many mosquitoes, it seems, are bred in back yards. F. P. Stockbridge, in the *May World's Work* tells of a startling number of places which may be mosquito nurseries: A large brood of mosquitoes may be hatched in a roadside puddle, that completely evaporates in a fortnight. Depressions that hold water temporarily go unnoticed in surrounding high grass. A single female may of a night deposit a mass of several hundred eggs, held firmly together and floating like a raft, in a tiny rain-water puddle in a hoof print by the roadside. Or a little-used horse trough may furnish the lying-in chamber; or a chicken-pan in a poultry yard; the water cup standing on the frame of the grindstone; the water that accumulates in garden furrows, especially in clayey soil; water pitchers in unused guest rooms; flower vases in which the water has not been frequently changed; a discarded tomato-can; some overlooked receptacle for water in the cellar; a cast-away beer or ginger ale bottle; the water tank of an acetylene gas machine; fire buckets; fragments of broken bottles placed on the top of stone walls; disused wells and old oaken buckets; open ditches by the roadside; sewer catch basins; old boxes and cans thrown on the dump heap; unscreened water tanks; rain-water barrels; cesspools,—indeed any place where a few ounces of water may stand unobserved.

The moral of the mosquito seems to be the ancient one about eternal vigilance. It does not help matters much that only the female transmits disease, though Mr. Kipling might to advantage have employed this biologic illustration in his recent poem. In mosquito extermination, however, there is no opportunity for sex discrimination, and this time it is the males who must suffer unjustly.

## THE HEALTH AGE.

THE twentieth century, though yet young, has already been not inappropriately termed the health age. Few decades in history have shown greater progress than the past ten years in the application of scientific knowledge and discovery to the problems of wholesome human living, and at no time has the importance of hygiene in the life of the individual been more fully recognized than to-day. Moreover, health is regarded no longer as a privilege but as an obligation of the individual to the community



and of the community to the individual. Were the Declaration of Independence now to be written, it would insist on the right of the individual to *health*, liberty and the pursuit of happiness.

In our emphasis on the first of these, however, do we not run some risk of losing sight of the last? Doubtless health in itself is a sufficient cause for happiness, though many persons fail to regard it as such. But is even health itself worth having, if it lead to nothing further?

The idea of the sound mind in the sound body is now become a trite axiom; but after all, the chief reason for acquiring the sound body is that the mind may be sound to pursue its higher activities. When we have learned to sleep with our windows open and to exterminate the fly and to drink water instead of wine, we have learned only the law, but not the prophets. After all, the chief glory and justification of human civilization lies in its discoveries in science and its achievements in art, in the superstructure which it has been building since paleolithic times. Doubtless it is desirable that we should all be healthy animals, but if that is all we are to be we had better have remained cave-dwellers.

It is a habit of the human mind to seek an excess of that which it has found to be good, to lose sight of the end in the pursuit of the means. This may be as true in the pursuit of health as in that of money or of pleasure. Any object of value loses its worth when everything else is forgotten in the attempt to secure it. There may perhaps be some tendency to exalt physical health into such a position of over-importance. Health is not the only precious possession it is our business to pass down the generations. We have not done our whole duty by our children, if we vaccinate them, and teach them oral hygiene and feed them on pasteurized milk until they are as disgustingly round-faced and fat-jointed, and pop-eyed and blowzy-cheeked as the pictures in the patent breakfast-food advertisements. The development of the ideas which these represent, like the abuse of school and college athletics, illustrates the possibilities that lie in the undue exaltation of the ideals of physical health.

The things that make life worth while, that really constitute happiness, may be founded on physical health, but do not consist in it solely. Nor does failure to attain physical perfection involve complete failure of the individual.

"There's no defect in nature but the mind;  
None can be called deformed but the unkind."

In our laudable zeal over hygiene, let us not forget to keep in touch with the higher things. In our emphasis on building muscle tissue and blood for resistance to disease let us not forget the quality of the neurone through which the spirit sends its message. In our passion for health and vigor, let us not forget "the passion for sweetness and light and for making *them* prevail."

#### ST. HELENA.

HUMAN Nature extends to the ends — and specks — of the earth. So does the daily press; hence this report:

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benevolent.

The smallest newspaper in the British Empire, the St. Helena Guardian, about the size of a sheet of foolscap, is about to die at the end of half a century. The editor explains the crisis. The newspaper is "widely read"—that is, on the island—but the readers "borrow and don't buy it."

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No editor's trials have excited our sympathy as has this failure of our brother in ink to outlive the neglect of those whom he served. We know that he made a good fight. The odds we can only guess, but we are satisfied that they were many and hard.

#### MEDICAL NOTES.

FESTSCHRIFT FOR DR. VON JAKSCH. — Dr. Rudolf von Jaksch recently celebrated his twenty-fifth anniversary as professor of internal medicine at the University of Prague, Austria. A special number of the *Prager medizinische Wochenschrift* has been issued in honor of the occasion.

ILLNESS OF THE DUCHESS OF CONNAUGHT. — Her Royal Highness, the Duchess of Connaught, was removed last week from Quebec to the Royal Victoria Hospital. She is said to have appendicitis, but is reported to be progressing towards recovery without operation.

LONDON DEATH-RATES IN APRIL. — Statistics recently published show that the total death-rate of London in April was 14.3 per 1,000 living. Among the several districts and boroughs, the highest rate was 19.6 in Finsbury, one of the crowded central regions, and the lowest was 10.1 in Wandsworth, a "model tenement" district on the right bank of the Thames.

**HONORS FOR TWO EMINENT BRITISH PHYSICIANS.**—Sir Victor Horsley, F.R.S., has recently been elected to membership in the Royal Society of Science, Upsala, to fill the vacancy made by the death of Lord Lister.

At the June Convocation of the University of Durham, England, the honorary degree of D.C.L. was conferred on Sir William Osler, Bart., M.D.

**OPERATION ON PRINCE JAIME.**—Report from Madrid on June 6 states that Prince Jaime, second son of King Alfonso and Queen Victoria of Spain, has recently been operated on by Dr. Moore, of Bordeaux, for middle ear abscess. The prince, who has never been robust, has had several previous operations for the removal of tonsils and adenoids. His medical history seems in no wise different from that of less distinguished children with similar physical diathesis and heredity.

**HARRINGTON LECTURES.**—The Harrington lectures were delivered before the University of Buffalo, N. Y., on May 28 to 31, by Dr. Ludwig Hektoen, on the subject of "Immunity."

**MOSQUITO EXTERMINATION IN NEW JERSEY.**—Apparently the work of mosquito extermination is being prosecuted in New Jersey this year with unwonted zeal. In many towns, the local board of health, while rendering all possible assistance, considers the householder responsible for the eradication of the insects from his premises. On June 6, a resident of Upper Montclair was fined \$10 in the local police court for allowing mosquitoes to breed on some marsh land which he owned.

**TWO CURRENT CONVENTIONS.**—Last week, from June 3 to 8, the national convention of the American Nurses' Association was held in Chicago. Its sessions were largely attended by many delegates from all parts of the country.

The National Conference of Charities and Corrections, which is to be held from June 12 to 18 at Cleveland, will also be attended by many representatives from Boston and New England.

"Dr. Richard C. Cabot and Dr. C. Morton Smith, of Boston, are to present social work from the standpoint of the medical profession. Dr. William P. Lucas of the Harvard Medical School will consider venereal contagious diseases in children; Charles W. Birtwell will present a report of the committee on sex hygiene, a work with headquarters in Boston, of which Dr. Charles W. Eliot is president."

**ANNUAL MEETING OF AMERICAN MEDICAL ASSOCIATION.**—The sixty-third annual meeting of the American Medical Association was held last week at Atlantic City, N. J. The various sessions were largely attended and numerous papers of interest were presented. Dr. Lesley H. Spooner, of Boston, read a paper on anti-typhoid inoculation. In an address on June 6, Mr. Michael M. Davis, Jr., director of the Boston Dispensary, discussed the subject of hospital efficiency and administration. In large cities the number of people receiving hospital care is steadily increasing each year. In Boston last year nearly 225,000 persons were recipients of medical charity.

"The three cities of Boston, Chicago and New York have a combined population of 7,622,751 and it is estimated that 45% of them are receiving dispensary aid. In Boston and New York the estimates indicate that the proportion is not less than one third. In these three cities the outpatient departments and reputable dispensaries are providing medical service for fully 2,500,000 people and are expending annually at least \$1,500,000."

At the meeting of the House of Delegates on June 6, Dr. John A. Witherspoon, of Nashville, Tenn., was elected president of the association for the ensuing year. Dr. Philander Harris, of Paterson, N. J., was chosen first vice-president; Dr. John L. Haffron, of Syracuse, N. Y., second vice-president, and Dr. H. M. McClanahan, of Omaha, Neb., third vice-president.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.**—For the week ending at noon, June 11, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 26, scarlatina 10, typhoid fever 17, measles 164, smallpox 0, tuberculosis 60.

The death-rate of the reported deaths for the week ending June 11, 1912, was 12.53.

**BOSTON MORTALITY STATISTICS.**—The total number of deaths reported to the Board of Health for the week ending Saturday noon, June 8, 1912, was 208, against 178 the corresponding week of last year, showing an increase of 30 deaths, and making the death-rate for the week, 15.06. Of this number 119 were males and 89 were females; 196 were white and 12 colored; 118 were born in the United States, 80 in foreign countries and 10 unknown; 44 were of American parentage, 134 of foreign parentage and 30 unknown. The number of cases and deaths from

infectious diseases reported this week is as follows: Diphtheria, 27 cases and 2 deaths; scarlatina, 14 cases and 0 deaths; typhoid fever, 17 cases and 0 deaths; measles, 194 cases and 1 death; tuberculosis, 68 cases and 21 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 16, whooping cough 0, heart disease 27, bronchitis 2. There were 23 deaths from violent causes. The number of children who died under one year was 41; the number under five years, 55. The number of persons who died over sixty years of age was 62. The deaths in hospitals and public institutions were 83.

**A LIVING CENTENARIAN.** — Mrs. Otis Locke, of Lynn, Mass., who is said to have been born on June 6, 1811, celebrated last week the supposed one hundred and first anniversary of her birth. She has been a widow for the past sixty years, and lives with her three daughters, all spinsters. Her health is excellent.

**FORSYTH DENTAL INFIRMARY.** — On Monday of last week, June 3, the corner-stone of the new Forsyth Dental Infirmary for Children was laid with appropriate ceremonies. The building is to be located in the Fenway, near Huntington Avenue. It is expected that about a year will be required for its completion.

**PLANS FOR CO-OPERATION IN BABY HYGIENE.** — The executive committee of the Boston Milk and Baby Hygiene Association has voted to adopt during the coming summer the plans of co-operation arranged at the joint conference noted in last week's issue of the JOURNAL.

"The Hygiene Association is to supply the milk, ten especially trained nurses and medical advice to the mothers through weekly conferences with staff physicians. To these conferences, at which each child is examined and its mother advised about its care, the Hygiene Association invites the Board of Health to send all the mothers and infants coming under the observation of the board's nurses. The milk stations also will be open to all. For the distribution of modified milk at these nine stations the Board of Health has granted the requisite licenses to the association for a year."

**CITY HOSPITAL FIELD DAY.** — On Tuesday of last week, June 4, the annual outing and field day of the Boston City Hospital house-officers and alumni was successfully held at the Recreation Grounds, Riverside, Mass. There were baseball, swimming and other athletic contests, followed by a dinner and informal speaking.

**PASSAGE OF THE OPTOMETRY BILL.** — The optometry bill, to which we have referred editorially in various former issues of the JOURNAL, was passed last week by the Massachusetts Legislature, and has now become law. In view of the attitude and opinion which the JOURNAL has consistently maintained and expressed on this subject, it is needless now to make other comment than that we consider this measure injudicious and its passage regrettable.

**GIFT OF MEDALS TO THE MEDICAL LIBRARY.** — A pleasant instance of international courtesy is seen in the recent presentation to the Medical Library by M. Tony Szirmai, the distinguished Parisian medallist, of seven beautiful examples of his work. His gift comprises the medals of the XV International Medical Congress and that of the XVI International Medical Congress, two varieties of the Hague Tuberculosis Congress of 1906 and one of the Vienna Tuberculosis Congress of 1907, the Hygiene Congress of Paris, 1910, and the Congress for the Study of Cancer, Paris, 1910. Such gifts testify to the widespread interest in this extraordinarily rich collection of medical medals.

**A MEASURE FOR THE PROPHYLAXIS OF COLDS.** — In a recent issue of the *Dartmouth Alumni Magazine*, Dr. Howard Nelson Kingsford, medical director of Dartmouth College, describes measures taken in that institution to reduce the prevalence of epidemic colds, influenza and bronchitis among its students. Bacteriologic examinations of the air in halls and recitation rooms showed great periodic variation in the number of colonies obtained on culture media exposed in Petri dishes. Accordingly the custom was instituted of disinfecting with formaldehyde any room in which the count showed more than thirty-five colonies to a dish, without regard to the kind of bacteria present. Following the adoption of this measure, in 1907, there has been a reduction by nearly one half in the number of minor respiratory infections reported among the students. Cultures of the air in all college rooms and halls are taken at regular intervals, and disinfection is employed whenever indicated. In view of some recent serious epidemics of tonsillar entrance in Boston and other cities, and the particular likelihood of such diseases to prevail in schools, hospitals and other crowded institutions, it seems that this measure of hygienic prophylaxis may deserve investigation and perhaps more general adoption.

**MASSACHUSETTS BABIES' HOSPITAL.** — In pursuance of a plan originally taken under consideration over a year ago, the Massachusetts Infant Asylum has now officially changed its name to the Massachusetts Babies' Hospital. In a public statement, issued last week, the directors of the institution say:

"Although it has always been a private institution, for a long time it was largely supported by funds received from the state, which amounted in the highest year, 1890, to over \$17,000. In 1891 this support was withdrawn.

"In one respect the conditions are the same to-day as they were in 1891, for the public has never fully realized, as it must, if the work is to continue, that the withdrawal of state support necessarily required a corresponding increase in private subscriptions. Although we have received generous subscriptions at times, they have not been as constant as our needs have required. It is obvious that this work cannot continue without adequate financial support, and we hope that this statement will appeal to the public and especially to the old friends of the institution who are familiar with its past history and public service.

"The system of caring for babies in the old-time asylum has given way to new and improved methods, which differ most radically from the old methods in that instead of keeping all the babies in an institution, the well babies are placed to board in families, until emergencies in their own families are tided over, and the sick ones are given hospital care and then boarded out, if necessary, until they are strong enough to be returned to their mothers.

"Our institution was the pioneer in this work of placing babies at board and to-day the other charities which deal with the older children depend upon referring infant cases to us. We lay great stress upon the importance of this part of our work which we have brought into very close relation to our hospital, which is under the medical direction of Dr. Henry I. Bowditch, one of our leading infant specialists. Our office at 43 Hawkins Street, with a force of trained social workers, is dealing with the social problems in families appealing to us for help, whether the assistance wanted is care for a sick baby in the hospital, or, on account of some family problem, care of a well baby at board.

"Our work is well described on the cover of the last report as follows: 'This institution provides medical and social care for babies. Its work is preventive as well as remedial. It aims to give the child a fair start in life.'

"The whole force of the institution is prepared to carry out this program in all its branches and to develop it further than ever before, but money must be provided to do this. Otherwise it will be impossible to continue the work to its present extent conforming to the highest standards of efficiency. We shall need \$15,000 between now and Oct. 1. We therefore earnestly appeal

for subscriptions, which should be sent to Walter Hunnewell, Jr., treasurer, 19 Congress Street, Boston."

#### NEW YORK.

**VITAL STATISTICS.** — The week ending June 1, 1912, exhibited a death-rate of 12.86 for the city of New York, a decrease of 1.10 points compared with the corresponding week of 1911.

The death-rate for the first twenty-two weeks of 1912 was 15.52 compared with 16.80 for the first twenty-two weeks of 1911.

**APPOINTMENT OF DR. SUMMERSGILL.** — It is announced that Dr. H. T. Summersgill, who has recently held a government position under Colonel Gorgas in the Panama Canal Zone, has been appointed superintendent of the New York Post-Graduate Medical School and Hospital, in the place of Dr. Frederic Brush, who resigned to take the management of the contemplated Burke Hospital for convalescents.

**EXTERMINATION OF FLIES.** — The State Department of Health has sent out a circular urging health officers throughout the state to institute a vigorous campaign against flies at this time, pointing out that the same expenditure of effort at the beginning of the fly season will accomplish much more than it can in the height of the fly summer.

**ACQUITTAL OF MURDER BY OXALIC ACID.** — On May 29, Winifred Ankers, the young woman employed at the Brooklyn Nursery and Children's Hospital, who was accused of causing the deaths of ten babies in that institution by placing oxalic acid in their milk bottles, was acquitted by a jury in the Criminal Branch of the Supreme Court, Brooklyn, after deliberating for an hour and a quarter. The counsel for the prisoner, contending that the state had not made out its case, offered no defense, and the trial judge, in his charge, left it to the jury to decide for themselves whether or not the confession which the woman had made was extorted from her by threats from the police to take her baby away from her. No other satisfactory explanation has been given for the manner in which the oxalic acid got into the milk bottles, whether by accident or design, but the jury apparently did not find the evidence of her guilt conclusive. It appears that there is a second indictment against the defendant, for murder in the first degree growing out of the deaths of the infants at the hospital, but as the evidence to be offered in the event of a trial on

this would be practically the same as that at the trial just ended, the judge consented to have her released in \$2,000 bail, and it is the general impression that this other indictment will eventually be dismissed.

**ROCKEFELLER PUBLIC SCHOOL GARDEN.** — On May 18 there was opened a public garden, to be tilled by school children, on a plot of ground 400 by 200 ft. adjoining the Rockefeller Institute, given by Mr. Rockefeller for the purpose. It is laid out in concentric circles about a pool of water, and will be under the direction of the New York branch of the Plant, Fruit and Flower Guild. The children's little plots have been assigned to two public schools and the Wesley Hill and Lenox Hill Settlements, and on these vegetables and flowers will be cultivated.

**COLUMBIA UNIVERSITY GRADUATION.** — At the 158th annual commencement of Columbia University, held on June 5, there were 1,779 graduates, the largest number in the history of the institution. Of these 85 were in the medical department. Thirteen students received the degree of pharmaceutical chemist and Frank L. Hunt was made Doctor of Pharmacy.

**NEW YORK UNIVERSITY COMMENCEMENT.** — At the eightieth annual commencement of New York University, held on June 5, seventy-nine graduates received the degree of Doctor of Medicine and three the degree of Doctor of Veterinary Surgery. Among those upon whom the honorary degree of Doctor of Laws was conferred was Dr. Horace Grant Underwood, of Seoul, Korea. In the medical department, the University and Bellevue Hospital Medical College, the Valentine Mott silver medal was awarded to Francis A. Glass, of New York; the Valentine bronze medal to H. B. Elsberg, of New Jersey; and the Glover C. Arnold surgical prize to Cornelius J. Tyson, of New York.

**GENERAL MEMORIAL HOSPITAL.** — It is announced that by the generosity of an anonymous donor \$100,000 has been added to the endowment of the General Memorial Hospital, for the maintenance of twenty beds for cancer patients, thus greatly increasing the facilities of the staff of the Collis P. Huntington Fund for Cancer Research. This fund was created in 1902 by Mrs. Huntington, and the late Dr. William T. Bull was the first president of its board of trustees. Its work has been carried on by Cornell University Medical College in conjunction with this hospital, which was originally founded and for some time was

conducted as a cancer hospital. The work, however, was somewhat limited in scope on account of the lack of adequate hospital facilities and of a satisfactory co-operation between the laboratories and such hospital facilities as were more or less available. Now this condition of affairs is remedied, and it is stated that at the General Memorial Hospital, where the twenty beds can be utilized for the clinical study and treatment of cancer, there are at present being installed new research laboratories and a thoroughly equipped x-ray and radium department.

**DIAGNOSIS OF SCARLET FEVER.** — The Research Laboratory of the City Health Department announces that, having found that the peculiar inclusion bodies recently discovered by Professor Döhle, of Kiel, in the blood of persons suffering from scarlet fever apparently afford a valuable means for the differential diagnosis of that disease, it is now prepared to examine blood-slides from suspected cases of scarlet fever and report the results.

**MEMORIAL TO DR. PARKER.** — In this number also the *Bulletin* takes occasion, in referring to the recent presentation to the hospital bearing his name of a bronze bas-relief of the late Dr. Willard Parker, with an appropriate inscription, to pay a tribute to the memory of that eminent surgeon. Dr. Parker rendered notable service to the city as a member of the Council of Hygiene and Public Health which was appointed by the Citizens' Association in 1864 and which made the investigation of sanitary conditions resulting in the establishment of the Metropolitan Board of Health. In recognition of this public service, he was appointed one of the original members of this board, as vice-president of which he remained for two years. Perhaps the great mass of those to whom the Willard Parker Hospital, the first modern contagious disease hospital built by the city, ministers to-day are familiar with his name only as the designation of the institution so well known in the borough of Manhattan; and it would seem eminently fitting, therefore, that the personality and services of this public-spirited physician should be commemorated in this manner.

**THE FIRST OPEN-AIR SCHOOL.** — It having been recently stated in one of the newspapers that the first open-air school in this country was established in Providence, Dr. Maxwell, president of the New York City Board of Education has

published a communication in which he says that this is a mistake, and that the first American school of that kind was opened by his board in connection with the Seaside Home for Children at Coney Island. This was in 1904, the same year in which the first European open-air school was established at Charlottenburg, Prussia. The Coney Island school, he states, has been conducted ever since, in all kinds of weather, and with the greatest possible advantage to hundreds of tuberculous children. There are now several other open-air classes for similar children, and several for those who are only anemic, and he adds: "The only limit to the extension of this work is put by the parsimony of the Board of Estimate and Apportionment in voting money for school supplies. During the school year now drawing to a close we would have opened several more classes of this kind had we had the money to supply the necessary warm clothing for cold weather and to install cooking apparatus. One of the interesting developments of the work is that in at least two schools some parents of normal children have petitioned to have their children taught all the year round in the open air."

**INFANT MILK STATIONS.** — Some changes will be made in the manner of conducting the infant milk stations of the city this season, the final plans for the new system having been adopted at a recent meeting of the Association of Infant Milk Stations held in the offices of the Division of Child Hygiene of the Health Department. The name of the organization has been changed to the Infant Welfare Association, as indicative of broader purposes, and, besides the distribution of milk and the instruction of mothers, it is proposed to make each milk station the center for looking after all the physical needs of the young child in the tenement district. In this broader organization it is planned to include hospitals, dispensaries, day nurseries, ice-distributing and outing agencies, and those engaged in pediatric research work, and special attention will be given to the problem of securing immediate hospital or dispensary treatment for infant emergency cases. The New York Milk Committee, of the Association for Improving the Condition of the Poor, has turned over its own milk stations to the Department of Health, and this season will co-operate with the department and the various other agencies in conducting an educational campaign among the people. The New York Diet Kitchen Association announces that, in co-operating with the department, it will supplement, but not

duplicate, the work of the municipal milk stations. In the future it will maintain stations only in sections not provided for by the Health Department or where the congestion of population still calls for as large a number of milk stations as can be supplied by the city and other agencies.

**RESEARCH IN SOCIAL HYGIENE.** — A press report on May 16 states that —

"The funds for the establishment of a laboratory for research work in social hygiene to be conducted in connection with the State Reformatory for Women at Bedford Hills, N. Y., have been provided by John D. Rockefeller and others. A ninety-three-acre farm near the reformatory has been purchased for the laboratory, the expenses of which have been guaranteed for a period of five years by the Bureau of Social Hygiene, which consists of John D. Rockefeller, Jr., Starr J. Murphy, Paul M. Warburg and Miss Katherine B. Davis, the superintendent of the reformatory. The plan has been approved by the attorney-general of the state, and in order that the inmates in the laboratory may be in legal custody while the examinations are being made the farm has been leased by the new owners to the reformatory at a nominal sum.

"The plan is to send each girl, when she is committed, to the laboratory for study from three different points of view — psychologic, sociologic and pathologic. There will be specialized staffs to conduct the work in each of these departments. The psychologic work will consist of testing the girls and women to find out whether they are mentally deficient and in what particulars they are normal or sub-normal. The work of the sociologic department will be that of learning through field workers what influence, if any, heredity and environment had in the commitment to the reformatory. The pathologic department will study the girls' physical condition. From the material thus gathered it is hoped will be gained not only a knowledge of the causes of the forms of delinquency which are responsible for the commitment of young women to the reformatory, but information which will make it possible to diagnose cases promptly and properly to classify them. The ultimate object is that of furnishing a simple method of diagnosing cases of women who have been convicted of crime, in order to determine before sentence whether a person can be reformed or whether she ought to be sent to a custodial home for feeble-minded or an insane asylum.

"The laboratory and a building for the accommodation of fifty inmates will be erected this summer. The scientific staff will occupy the home of Mr. Sanchez, in which also will be the offices. The laboratory grew out of the recognition by Miss Davis, the superintendent, of the fact that many of those who are committed to the reformatory are feeble-minded and that their offenses against society require a different treatment from that supposed to be provided at a reformatory. The question, however, was how to



test the case in order that the commitment might be to the proper institution without waste of time. This called for a test that could be applied in a simple manner under the direction of the courts. It is purposed, therefore, to make use of the material to be had at the Bedford Reformatory in gathering the desired information. The accomplishment of this work has been in Miss Davis's mind for a long time. It was outlined some time ago to members of the committee on criminal courts of the New York Charity Organization Society and the Board of City Magistrates, and has received the approval of the chief magistrate, Mr. McAdoo, Judge Foster of the Court of General Sessions and of justices of the Court of Special Sessions."

### Current Literature.

#### MEDICAL RECORD.

JUNE 1, 1912.

1. COLLINS, J. *Vertigo as a Symptom of Disease of the Nervous System.*
2. COFFIN, L. A. *The Surgical Management of Nasal Accessory Sinus Disease.*
3. KESSLER, E. G. *The Treatment of Carcinoma by Selenium.*
4. WRIGHT, B. L. *The Treatment of Diseases of Vegetable Parasitic Origin by Deep Muscular Injections of Mercuric Succinimide. Reporting Six Cases of Pneumonia and Six Cases of Gonorrheal Arthritis.*
5. LLOYD, S. *The Results of Renal Decapsulation for Chronic Nephritis.*
6. COCKS, G. H. *Tonsillar Hemorrhage, Causes, Prevention and Treatment.*
7. BRILL, N. E. *On the Identity of Typhus Fever and Brill's Disease.*
8. EISING, E. H. *The Diagnostic Use of Gonococcus Vaccine for Gonorrheal Infections.*
9. STEWART, D. H. *The Abuse of the Edge.*
10. KOSMAK, G. W. *The Use of Medicated Suppositories for Vaginal Application.*

#### NEW YORK MEDICAL JOURNAL.

JUNE 1, 1912.

1. FRENCH, T. R. *The Upright Position in Ether Operations upon the Nose, Throat and other Portions of the Head.*
2. GWATHMEY, J. T. *The Value of Warmed Anesthetics.*
3. KEYES, E. L., JR., AND STEVENS, A. R. *Intravenous Administration of Phenolsulphonephthalein for Ureter-Catheter Study of the Renal Function.*
4. STARR, M. A. *Unfounded Beliefs Concerning Insanity.*
5. COBURN, R. C. *A New Principle in the Politzer Vaporizing Method of Administering Anesthetics.*
6. KERR, LE G. *Abdominal Distress in Children beyond Infancy.*
7. DANZIGER, E. *Tonsillotomy or Tonsillectomy.*
8. SANDERS, H. A. *The Drop Method of Administering Ether, with Special Reference to a New Combination Inhaler.*
9. HELLMAN, A. M. *Anesthetics in the Borough of Manhattan.*

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

JUNE 1, 1912.

1. LITTTIG, L. W. *The Practitioner, the Profession and the Medical Organization.*
2. MURPHY, J. B. *Contribution to the Surgery of Bones, Joints and Tendons.*
3. CLARK, L. P. *A Case of Myoclonus Occurring Only after Rest or Sleep.*

4. GINSBERG, W. *The Surgical Importance of the Parathyroid Glands and Closely Allied Lymph Nodes.*
5. SIMPSON, F. F. *A Device for Moving Patients.*
6. MAVERICH, A. *Typhoid Vaccination and the Widal Reaction, with Report of a Case which Failed to Show a Positive Widal after Three Successive Vaccinations.*
7. WOODBURY, M. S. *A Method of Outlining the Thyroid Gland.*
8. DAVIS, E. V. *Toxemia and Eclampsia in the New-Born Babe.*
9. BROOM, L. *Recent Advances in the Treatment of Pulmonary Tuberculosis by Air, Food and Rest.*
10. FIELD, C. W. *The Occurrence of a Positive Wassermann Reaction in Cases of Lead Poisoning.*
11. ROUS, P., MURPHY, J. B., AND TYTLER, W. H. *Transplantable Tumors of the Fowl: A Neglected Material for Cancer Research.*
12. MARGNIS, G. P. *Another Tonsil Forceps: One of the Operative Difficulties Removed.*
13. PEASE, H. E., AND MILLER, E. L. *Hematuria from Tuberculosis of a Patent Urachus. Operation, Followed by Septic Rash. Recovery.*
14. TUCKER, A. W. *A Case of Gunshot-Wound of the Pregnant Uterus.*

#### JOURNAL OF MEDICAL RESEARCH.

APRIL, 1912.

1. \*CRAIG. *Observations upon the Morphology of Parasitic and Cultural Amebae.*
2. WARTHIN. *The Molasses Plate Method A Modification of the Huber-Schmorl-Obreigia Method.*
3. WESTON. *A Colorimetric Test for Cholesterol.*
4. \*RETTGER AND SPERRY. *The Antiseptic and Bactericidal Properties of Egg-Albumin.*
5. SCHULTZ. *The Formation of Pigment by the Dermal Chromatophores.*
6. MACNIDER. *A Study of the Renal Epithelium in Various Types of Acute Experimental Nephritis and of the Relation which Exists Between the Epithelial Changes and the Total Output of Urine.*
7. \*SCHORER AND ROSENBAUM. *Tests of the Efficiency of Pasteurization of Milk under Practical Conditions.*
8. WEIL. *Some Observations on the Cultivation of Tissue in Vitro.*
9. \*LUCAS AND PRIZER. *An Experimental Study of Measles in Monkeys.*

1. Craig divides all intestinal amebae into three groups, i. e., the entameba coli, histolytica and tetragena. The former is non-pathogenic and is found in from 5 to 50% of healthy individuals in almost every locality. This startling fact indicates the importance of its differentiation from the pathogenic forms. The distinction can be made by practice from the morphology of the various forms.

4. The authors show that the egg is protected against external contamination not only by the shell, but by a layer of albumin (white), which is not only antiseptic but bactericidal. The paper is more in the nature of a preliminary report, since the studies are still in progress.

7. Efficiency of practical pasteurization is measured by three factors, i. e., (1) time and temperature records, (2) percentage reduction of bacteria, and (3) the bacteriological tests of the pathogenic nature of the remaining organisms. This most important piece of work has demonstrated that in commercial pasteurizers the heating surface is too limited, the flow too rapid and the holding tanks insufficient in capacity. The control and maintenance of temperature is difficult.

Under the conditions which were employed in the tests only 50% of the trials were successful in killing diphtheria, typhoid and tubercle bacilli. From animal experiment, however, it was shown that the remaining bacilli were either reduced in number or attenuated, or both. The authors conclude that milk should be held from thirty to forty-five minutes at 145° F. This is sufficient since it is unlikely that any milk will be subjected to a temperature less than 140° F, which is the minimum killing point. At this temperature the cream line is preserved. These studies further emphasize the necessity of official control of all pasteurizing plants.

9. Lucas and Prizer have produced in monkeys a disease

of a definite incubation period, with coryzal and eruptive symptoms similar to the disease in man. They emphasize the presence of Koplik spots which have never been reported in the monkey previously. [L. H. S.]

THE LANCET.

MAY 4, 1912.

1. \*GIBSON, G. A. *Cardiac Debility and Cardiac Dilatation.*
2. \*GOLDMAN, E. E. *Cellular Activity in Health and Disease. Biochemical Studies Based upon New Methods of Intra-vitam Staining.*
3. MURRAY, G. R., AND SOUTHAM, F. A. *A Case of Ligneous Thyroiditis.*
4. SMART, M. *The Treatment of Muscular and Joint Injuries by Graduated Contraction.*
5. ARMSTRONG, W. *The Spa Treatment of Neuritis.*
6. WILLIAMS, M. H. *A Note on the Temperature of 1,000 Children.*
7. BANKE, G. S. *Family Susceptibility and Virulence in Scarlet Fever.*
8. \*LYSTER, R. A. *The Organization of an Anti-Tuberculosis Crusade.*

1. Gibson, discussing cardiac debility and dilatation, first takes up diagnosis of this condition, and considers radiocopy, the electrocardiogram and the various signs and symptoms, local and general. He briefly goes over the various causes and then takes up treatment, emphasizing the importance of rest, proper diet and exercise judiciously prescribed. Among drugs, he puts a high value on iodide of calcium. In a few cases he finds strychnine of value, but whenever there is any derangement of the nervous mechanism he does not approve of it; on the other hand, he finds digitalis and its compounds of the greatest value. He briefly mentions adrenalin as of little value and nitrites as of great benefit along with digitalis.

2. Goldman has found that he can inject two blue stains (pyrrhol blue and isamine blue) into the blood stream of mice without harm and stain their cellular tissues a permanent blue. In addition to being a great advance over our ordinary microscopic technic this method presents still further possibilities in that it furnishes a guide as regards the action of certain cells toward this stain in determining the functions of those cells in reference to normal products of metabolism or other pathogenic substances. In relation to tuberculosis and cancer these investigations promise to be of the greatest value.

8. Lyster describes his type scheme for organization against tuberculosis. This includes the county, local sanitary authorities, general practitioners and voluntary workers. (This scheme is of interest when compared with the recently published interim report of the British Tuberculosis Committee. J. B. H.) [J. B. H.]

MAY 11, 1912.

1. \*PAGE, C. M. *Hedonal as a General Anesthetic Administered by Intravenous Infusion. A Report on Seventy-five Cases.*
2. HURRY, J. B. *Vicious Circles Associated with Disorders of the Nose, Throat and Ear.*
3. BUXTON, D. H. *The Vital Phenomena Occurring under Anesthesia—Nervous, Circulatory, Respiratory and Metabolic—and their Relation to the Safety of the Patient.*
4. \*BROCK, B. G. *Report on an Inquiry into the Prevalence of Syphilis in the South African Native, and its Influence in Aiding the Spread of Tuberculosis.*
5. SINCLAIR, H. W., AND HIRKHAM, V. H. *A Note on the Heating of School Rooms by Closed Slow-Combustion Stoves Burning Coke.*

1. See JOURNAL, May 30, 1912, vol. clxvi, p. 832.

4. Brock has investigated the conditions as regards the incidence of syphilis in South Africa and finds it as high as 80% among the natives; further, 35% of natives have a fibroid condition of the lungs, 68% an enlarged epithelial gland. He believes that the great amount of tuberculosis and its rapid mortality are due to the fact that in so many instances the lungs are already injured to a greater or less extent. [J. B. H.]

MAY 18, 1912.

1. PANTON, P. L., AND LIDY, H. L. *Myeloid Leukemia—Chronic and Acute.*
2. MORTON, E. R. *The Treatment of Rodent Ulcer.*
3. GEDDES, A. C. *Intense Neuralgic Pain in the Arm after Childbirth.*
4. WILLIAMS, C., AND MARTINDALE, W. H. *Cystitis and Urinary Antiseptics. With a Note on Analyses of Urines for Formaldehyde.*
5. WALKER, C. E. *The Treatment of Cancer with Selenium.*
6. FORBES, D., AND BANKS, C. *Sterile Abscesses following the Use of Tuberculin.*
7. GRUNBAUM, C. *The Hemo-Renal Index.*
8. ARMSTRONG, W. C. M. *The Preparation of a Bronchitis Vaccine: a Method of Rapidly Obtaining a Pure Culture from Sputum.*
9. HORN, A. E. *Health of Europeans in West Africa.*

BRITISH MEDICAL JOURNAL.

MAY 4, 1912.

1. \*LANE, W. A. *A Clinical Lecture on Chronic Intestinal Stasis.*
2. \*MACKAY, L. G. J. *A Post-Graduate Lecture on Infection of the Urinary Tract by Bacillus Coli.*
3. BISHOP, E. S. *A Post-Graduate Lecture on the Correlation and Distinction between Certain Symptoms in Some Abdominal Diseases.*
4. OWEN, E. *Appendicitis—and Quickness.*
5. LELFORD, E. D. *On Retroperitoneal Perforation of the Duodenum, with a Suggestion for Treatment.*
6. TYRRELL-GRAY, H., AND PARSONS, L. *The Arris and Gale Lectures on the Mechanism and Treatment of Shock.*

1. Lane discusses chronic internal stasis, its diagnosis, symptomatology and treatment. He urges operative interference in every case which resists medical so-called palliative treatment.

2. Mackey describes the manners in which the urinary tract becomes infected with b. coli, the parts usually affected, the symptoms and especially treatment in acute and chronic cases with drugs, vaccines and by operation. He gives a table of illustrative cases. [J. B. H.]

MAY 11, 1912.

1. MOTT, F. W. *A Lecture on Sanity and Insanity.*
2. \*FORSYTH, D. *A Post-Graduate Lecture on Coma and its Differential Diagnosis.*
3. CAESAR, R. S. *Galvanization of the Brain.*
4. EVELYN, W. A. *A Case of Typhoid Fever Complicated with Cholecystitis.*
5. GOLLA, F. L., AND ROLLESTON, H. D. *Green Urine due to a Proprietary Pill.*
6. \*TYRRELL-GRAY, H., AND PARSONS, L. *The Arris and Gale Lectures on the Mechanism and Treatment of Shock.*

2. Forsyth takes up in a clear and systematic way, though presenting nothing new, the different causes of coma and the differential diagnosis.

6. Tyrrell-Gray and Parsons, in the Arris and Gale lectures on shock, conclude that vasomotor variations in abdominal surgery are due to local vascular changes from the direct stimulus of nerve fibers; blood-pressure variations due to centripetal impulses are symptomatic of central or "systemic shock." The fall of blood pressure due to prolonged operations in the abdomen is due to afferent pressor fatigue and the domination of active central depressor impulses. [J. B. H.]

MAY 18, 1912.

1. GEDDES, A. C. *A Scheme for the Teaching of Anatomy.*
2. \*ANDREWS, H. R. *An Address on Pylonephritis of Pregnancy.*
3. MARTIN, J. H. *The Etiology of the Excessive Vomiting of Pregnancy.*
4. CAUTLEY, E. *Fever in the Newborn.*
5. BAIN, G. *Functional Derangement of the Liver.*
6. MORTON, J. *Congenital Absence of the Colon.*
7. ROW, R. *A Simple Hemoglobinized Saline Culture*

*Medium for the Growth of Leishmania and Allied Protozoa.*

8. ALDONS, L. F. *Notes on Four Cesarean Sections.*
9. TYRRELL-GRAY, H., AND PARSONS, L. *The Arris and Gale Lectures on the Mechanism and Treatment of Shock.*

2. In this short article Andrews briefly considers pyelonephritis in pregnancy and its etiology, diagnosis and treatment. He is strongly in favor of conservative treatment. He gives the details of nineteen cases. [J. B. H.]

THE PRACTITIONER.

MAY, 1912.

1. \*ABBOT-ANDERSON, M. "Floating" or Movable Kidney Considered from the Practitioner's Standpoint.
2. \*YEARSLEY, M. What Adenoids Really Mean to Children.
3. \*SUTCLIFFE, W. G. Treatment of Tuberculous Glands of the Neck in Children.
4. \*SHEILL, S. Epidemic Gastro-Enteritis.
5. \*ASHBY, H. T. The Anemia Associated with Rickets and Gastro-Intestinal Disturbances, Including Splenic Anemia in Children.
6. COBBLEDICK, A. S. The Role of Eye-Strain in General Practice.
7. \*YOUNG, M. Some Practical Points in the Diagnosis of the Exanthemata and Allied Diseases.
8. MEACHEN, G. N. The Treatment of the Various Types and Stages of Eczema.
9. BOYD, S. Diagnosis in Diseases of Joints.
10. ST. JOHN, V. Appendicular Abscess in the Pouch of Douglas.
11. KERR, J. R. Thoracoplasty for Chronic Empyema, with Notes of Two Cases.

1. Abbot-Anderson considers the subject of "floating" kidney from the point of view of the general practitioner. He urges the use of a properly adjusted pad combined with rest and increased feeding. He believes that this condition is practically confined to women and that the cause is to be found in corsets, too tight or improperly worn.

2. Yearsley reviews in a striking manner the importance of adenoid growths in children and the various ways in which such growth may affect unfavorably the child. He describes the symptoms of such growths, the effects on phonation and the respiratory system, their effect on development, physical and mental, and the need of radical early treatment.

3. Sutcliffe devotes most of his paper to the surgical treatment of tuberculous adenitis of the neck in children. He calls attention to the fact that even large masses of glands, however, will disappear under hygienic treatment. He urges rest and properly regulated and limited exercise. Tuberculin in minimum dosage given with great care may do good. "Dietary considerations must be based on common sense principles." It is after the glands have been removed that he thinks tuberculin to be of the greatest service.

4. Sheill in a long paper discusses epidemic gastro-enteritis which was extraordinarily prevalent in England during the months of July, August and September, 1911. He describes the apparently deplorable condition of affairs in English dairies and in the methods of delivery and reviews the common pathogenic bacteria present in unclean milk. He goes over the various precautions to be taken to ensure a clean and comparatively sterile milk for infants, going into great detail on this subject. He discusses the chemistry of milk and the various ways of modifying it. He mentions various proprietary preparations as of value, a procedure hardly considered ethical in this county, but one that must be much appreciated by the English manufacturers.

5. Ashby, in an interesting paper, describes a form of anemia associated with rickets and gastro-intestinal disturbances in children. Severe types of this anemia he believes to be identical with splenic anemia. This latter he considers a purely secondary anemia of high grade. It is due to the toxins manufactured in both rickets and gastro-intestinal disturbances. He presents various mild cases showing this anemia and compares them with others

suffering from what is known as splenic anemia. The prognosis of severe cases of splenic anemia he considers unfavorable although some cases have recovered.

7. This article is of an eminently practical nature and of the greatest value to the general practitioner. Its title is self explanatory. [J. B. H.]

EDINBURGH MEDICAL JOURNAL.

MAY, 1912.

1. FLEXNER, S. *The Local Specific Treatment of Infections with Especial Reference to Epidemic Meningitis.*
2. MILLER, A. G. *Nocturnal Urination.*
3. YOUNG, J. *Treatment of Contraction of Pelvic Outlet—Two Cases, One Treated by Pubiotomy, the Other by Induction.*
4. JAMES, A. *Trauma as a Factor in Disease.*
5. \*REID, H. S. *The Methods of Examining and Enumerating Blood-Plates.*

5. Reid presents a thorough and careful article which considers from a critical standpoint the various methods of examining and enumerating blood plates. Among other methods he considers those advocated by Pratt, Wright, Muir, Affanarsiew, Kemp and Brodie and Russell. These he divides into two classes, the direct and the indirect methods, according as the plates themselves are actually counted or their number obtained indirectly by finding their ratio to the red cells. [J. B. H.]

WIENER KLINISCHE WOCHENSCHRIFT. No. 21.

MAY 23, 1912.

1. V. HABERER, H. *A Case of Roentgen Carcinoma.*
2. KLAUSNER, E. *The Lipoids in the Serum in Lues.*
3. \*MILOSLAVICH, E. *Isolated Tuberculosis of the Appendix.*
4. ADLER, O. *The Treatment of Internal Diseases with Animal Charcoal.*
5. \*V. DALMADY, Z. *The Therapeutic Employment of Rhodan Compounds.*
6. V. JAUREGG, W. *Judgment of the Vienna Medical Faculty.*
7. NEUBURGER, M. *Miscellanea from the History of German Neuropathology.*
8. KLEIN. *The High Sun in the East Alps.*

3. With regard to tuberculosis of the appendix, Miloslavich concludes that isolated cases may be due either to hematogenous or to enterogenous infection. The origin of an apparently primary peritoneal tuberculosis may be from the appendix. The clinical appearances of appendiceal tuberculosis may be made responsible for the picture of an acute or chronic appendicitis.

5. Von Dalmady reports two cases, and concludes that in doses of 0.15 to 0.25 gm. three or four times daily, sodium rhodanide seems to affect favorably the lancinating pains of tabes, the migraines, certain arteriosclerotic disabilities and sympathetic neuroses. [R. M. G.]

REVUE DE MÉDECINE.

APRIL, 1912.

1. TINEL, T., AND GASTINEL, P. *Meningeal Conditions in Tuberculosis.*
2. \*LABBÉ, H. *Researches in Depancreatation. I. Modifications of General Nutrition in a Partly Depancreatized Dog.*
3. \*CRAMER, A. *The True Value of Lactose as a Diuretic.*
4. LAFFORGUE, M. *Paramyoclonus of Parotid Origin (Mumps).*
5. \*DUPUY, R. *Infantilism and Opothrapy.*

2. After a review of the recent literature on depancreatation, Labbé considers the classical signs of diabetes in his depancreatized dog. Polyphagia, polydipsia and polyuria are lacking. The loss of weight is very gradual and on the whole not pronounced. Glycosuria alone remains constant. Metabolism experiments show that while fat is "split" it is very imperfectly absorbed.

This dog shows an ability to overproduce ammonia. The urea production is essentially normal. This would indicate a normal activity of the liver, although histological examination indicates a certain amount of degeneration of liver tissue.

3. The author concludes that powdered lactose administered by mouth causes no diuretic action except when the liver is deficient in activity. When mixed with a barley infusion a polyuria may result. But this is not due to the lactose, which, on the other hand, may produce harmful results from its irritative action on the gastro-intestinal tract.

5. Dupuy recommends in cases of arrested or retarded development a treatment consisting of small doses of powdered thyroid, hypophysis and suprarenal. This has proved efficient in many instances when the thyroid gland alone has proved ineffectual. The treatment, though most satisfactory, is longer than that with the separate gland substances; and much patience on the part of the practitioner is needed. Should the administration by mouth prove fruitless subcutaneous injections may be employed. [L. H. S.]

MAY, 1912.

1. \*JEANSELME, E., AND CHEVALLIER, P. *Researches on Clinically Latent Secondary Syphilitic Meningopathies.*
2. LABBÉ, H. *Researches on Depancreatation. II. Special Nutritional Troubles in a Partly Depancreatized Dog.*

1. The presence of a lymphocytosis in the cerebrospinal fluid indicates a meningitis. This is an important aid in the diagnosis of secondary syphilis, as well as in the parasymphilitic lesions. The authors recommend an enumeration of cells according to the method of Nageotte. This is advised because of its ease and accuracy. Furthermore, the amount of fluid necessary for examination is very inconsiderable. The examination in the chamber of Nageotte under the high power permits a differentiation of cells quite sufficient for practical purposes. [L. H. S.]

### Obituary.

#### HEINRICH UNVERRICHT, M.D.

DR. HEINRICH UNVERRICHT, who died of hemiplegia complicating chronic nephritis on April 22, at Magdeburg, Germany, was born in Breslau on Sept. 18, 1853. As a medical student in his local university his interests seemed to be chiefly those of an internist. In 1883, however, he began his publications in the experimental and clinical study of epilepsy, which even then attracted considerable attention. In 1886 he was appointed professor extraordinary and director of the medical polyclinic at the University of Jena, and there he continued his researches in nervous diseases and their therapy. He was the originator of many classic experiments in the pharmacologic action of various drugs on the central nerve system.

In 1889, he became professor at the University of Dorpat. Here the number of his students was much increased, and here he developed in full his cortical theory of the nature of epilepsy. He retained also his interest in more familiar clinical topics, such as pneumonia, typhoid and nephritis. This was the most brilliant period of his career, and here was made his reputation as a teacher and an investigator. This period, however, was brief. In 1892 he was called to Magdeburg, where he became director of the Sudenburg-Magdeburg Hospital, an institution which he served faithfully and well until his retirement in 1911. During this time he also served as president of the Magdeburg Medical Society, and as editor of the *Zentralblatt für innere Medizin*. He also continued his publication of

original papers, and completed his work on epilepsy, which will stand as his greatest contribution to medical science and literature.

Unverricht was a man of social instincts, interested in all the public movements of his time. He was an able lecturer, a brilliant diagnostician, a noted consultant. He was widely known, and will be long remembered in Germany for his accomplishment and for his winning personality.

### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, JUNE 1, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	7	3
Chicago.....	576	172	Waltham.....	—	—
Philadelphia.....	—	—	Brookline.....	5	1
St. Louis.....	—	—	Chicopee.....	4	—
Baltimore.....	—	—	Gloucester.....	9	4
Cleveland.....	—	—	Medford.....	3	—
Buffalo.....	—	—	North Adams.....	3	—
Pittsburg.....	—	—	Northampton.....	7	3
Cincinnati.....	—	—	Beverly.....	3	—
Milwaukee.....	—	—	Revere.....	4	2
Washington.....	—	—	Leominster.....	5	1
Providence.....	—	—	Attleboro.....	3	0
Boston.....	209	67	Westfield.....	4	1
Worcester.....	54	13	Peabody.....	2	—
Fall River.....	35	13	Melrose.....	1	—
Lowell.....	29	11	Woburn.....	3	2
Cambridge.....	26	4	Newburyport.....	3	—
New Bedford.....	16	7	Gardner.....	3	0
Lynn.....	30	4	Marlboro.....	3	1
Springfield.....	26	5	Clinton.....	3	—
Lawrence.....	18	9	Milford.....	—	—
Somerville.....	14	2	Adams.....	2	0
Holyoke.....	13	5	Frammingham.....	—	—
Brookton.....	7	2	Weymouth.....	—	—
Malden.....	15	4	Watertown.....	0	—
Haverhill.....	10	3	Southbridge.....	1	—
Salem.....	12	2	Plymouth.....	—	—
Newton.....	8	1	Webster.....	3	1
Fitchburg.....	8	1	Methuen.....	3	—
Taunton.....	8	1	Wakefield.....	—	—
Everett.....	8	3	Arlington.....	4	2
Quincy.....	—	—	Greenfield.....	6	5
Chelsea.....	13	1	Winthrop.....	1	—

### SOCIETY NOTICE.

OPENING OF THE PSYCHOPATHIC HOSPITAL, BOSTON.—The Trustees of the Boston State Hospital extend to physicians of the State an invitation to inspect the new Psychopathic Department on Friday, June 21, 1912, from 8 to 6 o'clock. This department is at 74 Fenwood Road, Boston, and can be readily reached by Huntington Avenue or Chestnut Hill, Brookline Avenue line cars, alighting at Fenwood Road.

### RECENT DEATHS.

DR. JOHN ARTHUR IRWIN, of New York, died in that city last week. He was a frequent contributor to medical periodicals.

DR. SAMUEL JOHNSON, a prominent physician of Asbury Park, N. J., and vice-president of the First National Bank of that place, died on May 24. He was graduated from the College of Physicians and Surgeons, New York, in 1867 and at the time of his death was consulting physician to the Monmouth Memorial Hospital at Long Branch.

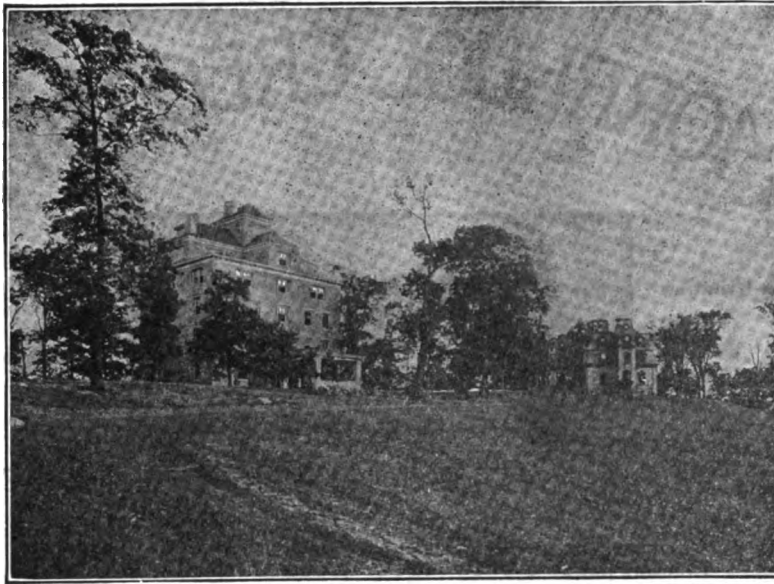
DR. JOSEPH W. DWYER, of Passaic, N. Y., died on May 28, in the Passaic General Hospital, at the age of fifty-two years. He was educated at Seton Hall College, and graduated from the Medical department of Columbia University, New York, in 1900.

DR. JAMES MCCHESNEY, of Troy, N. Y., a retired physician, who was formerly prominent in the profession in Northern New York, died on June 4, at the age of eighty-nine years. He was graduated at Castleton, Vt., in 1849.

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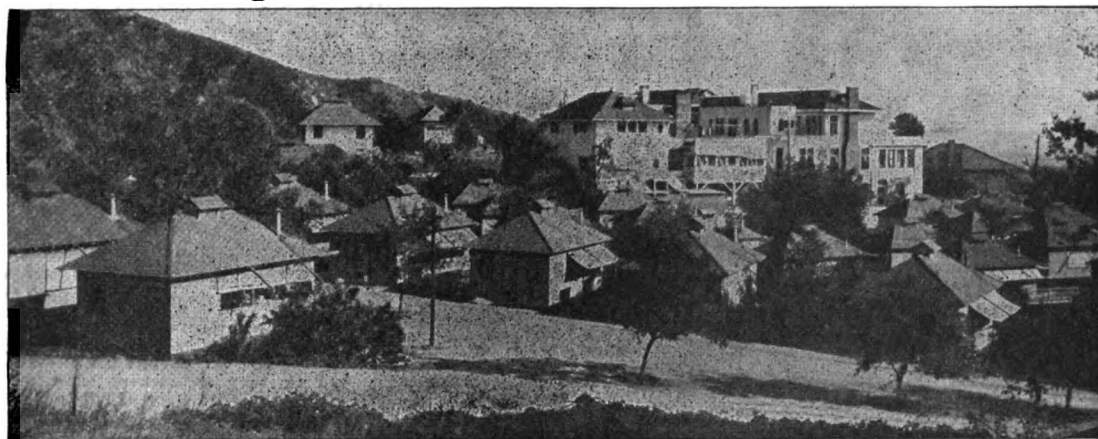
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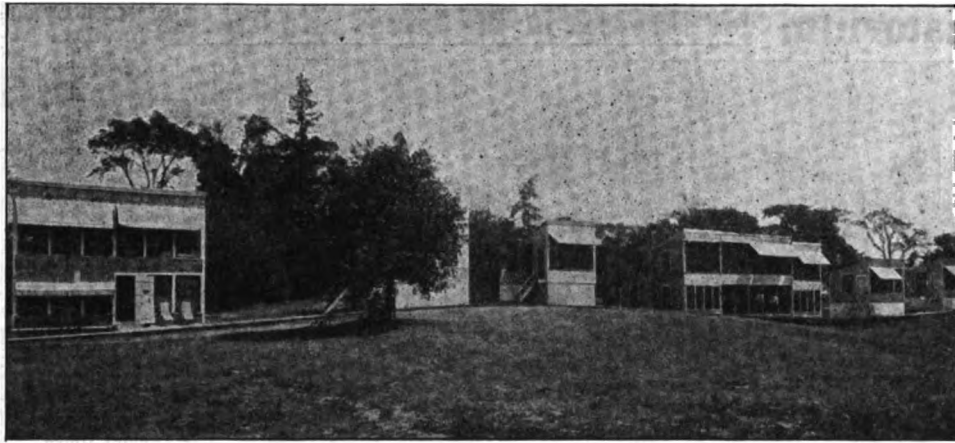
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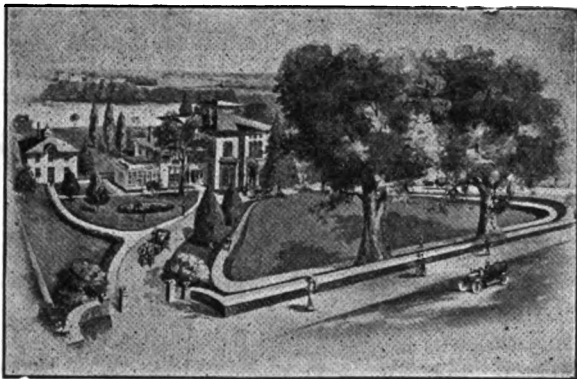
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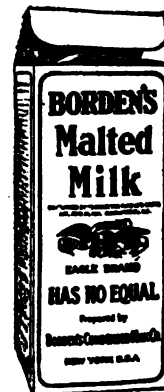
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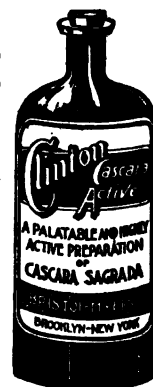
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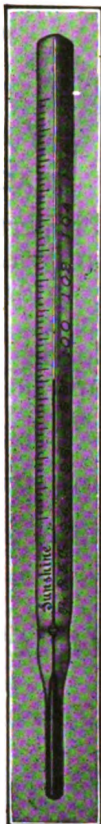
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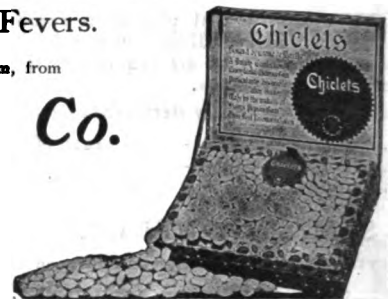
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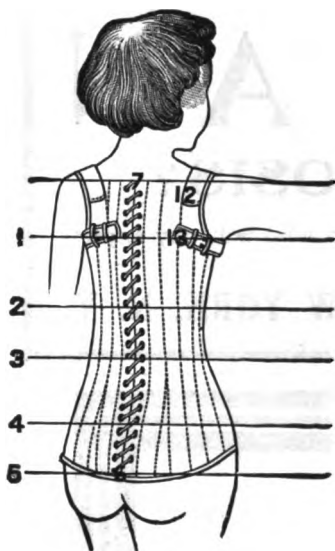
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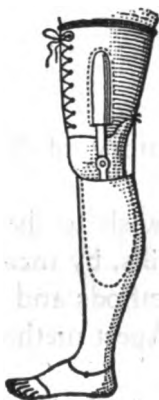
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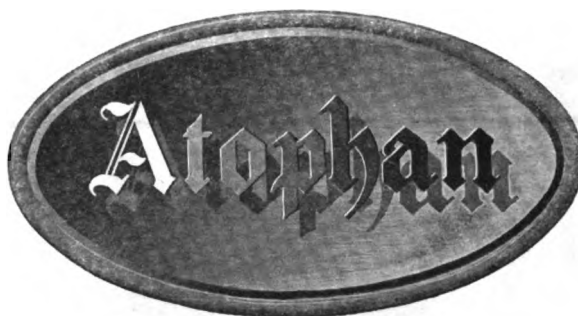
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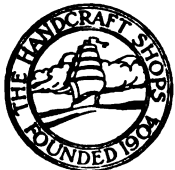
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Application must be made before June 10, 1912. Application blanks can be obtained from the Superintendent at the hospital or will be sent by mail.

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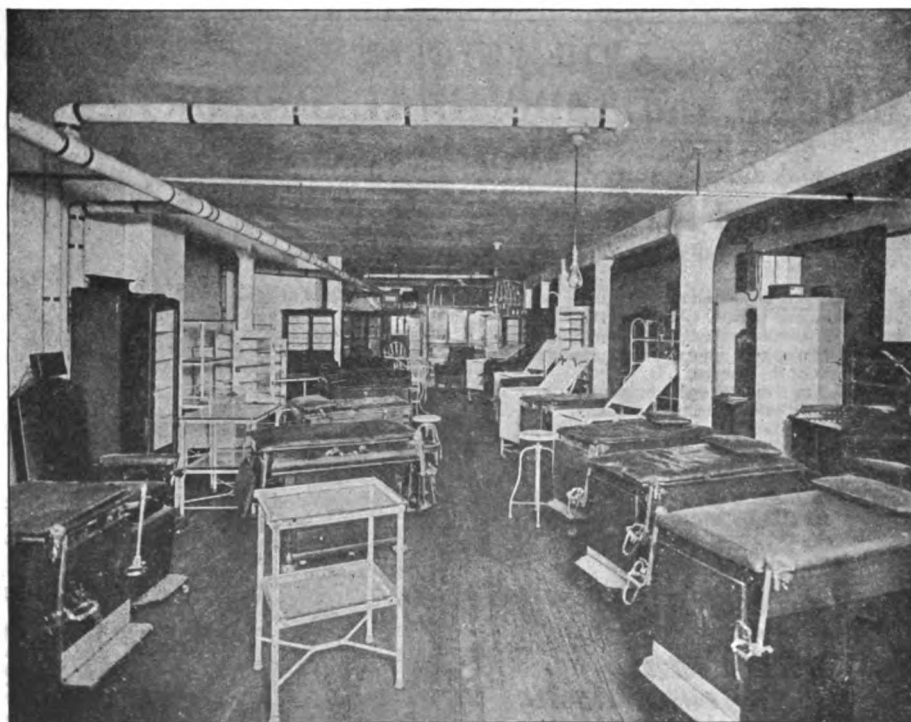
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**Address.****THE ANNUAL DISCOURSE: THE BURDEN OF FEEBLE-MINDEDNESS.\***

BY WALTER E. FERNALD, M.D., WALTHAM.

MR. PRESIDENT AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY:

The methods of patient research and collective investigation which have led to such brilliant results in the study of various diseases in general medicine and surgery are now beginning to be applied to the study of the causation, extent, significance, treatment and prevention of feeble-mindedness, — the synonym of human inefficiency and one of the great sources of human wretchedness and degradation.

The past few years have witnessed a striking awakening of professional and popular consciousness of the widespread prevalence of feeble-mindedness and its influence as a source of wretchedness to the patient himself and to his family, and as a causative factor in the production of crime, prostitution, pauperism, illegitimacy, intemperance and other complex social diseases.

The exact number of the feeble-minded in the community is not known. There are probably 2 to 1,000 of our population, over 7,000 in this state alone. These cases are found in the families of the rich and of the poor, in the city and in the country. There is scarcely a village or a school district in this state where one or more will not be found. There is no reason for believing there is a greater proportion in this state than in other states or countries.

The fact that feeble-mindedness is the result of pathological conditions of the brain, either gross lesions caused by faulty development or by the destructive results of disease, or perhaps numerical deficiency or imperfect evolution of the ultimate cortical cells, makes it obvious that the resulting mental defect is incurable and permanent. If a nerve cell is damaged or destroyed by traumatism or disease, it is gone forever. It is never replaced by the multiplication of other similar cells, as may happen in other bodily tissues.

The various known causes of feeble-mindedness occur in two main groups, — the hereditary and the accidental. The hereditary cases are those where the person is feeble-minded because his parents or other ancestors were feeble-minded. The accidental group includes those who are feeble-minded as a result of environmental causes, without hereditary influence.

The hereditary cases are the most numerous. The recent intensive study of the family histories of large numbers of the feeble-minded by Goddard, Davenport and Tredgold show that, in at least 80% of these cases, the mental defect had been preceded by other cases of defect in the immediate family line. Goddard finds that 65% of his institution cases had one or both parents actually feeble-minded. It is believed that this

hereditary defect is the result of protoplasmic defect in the germ plasm of the family stock.

There is no doubt as to the potency and certainty of this hereditary tendency. Often the feeble-minded child represents a feeble-minded family. Davenport believes that aside from the Mongolian type, probably no imbecile is born except of parents who, if not mentally defective themselves, both carry mental defect in their germ plasm.

So far as is known, if both parents are feeble-minded, all the offspring will be feeble-minded. If one parent is feeble-minded, it is probable that some of the offspring will be feeble-minded, and the children who are themselves normal will be likely to beget defectives. These normal persons in tainted families who are potential "carriers" of the defective germ plasm may keep up the sequence. If both parents come from tainted families, the probability of defect in the children is much increased. The normal members of tainted families who mate with healthy individuals with no family taint are not so likely to have defective children; indeed, the tendency may be eradicated by judicious breeding-up for several generations. This tendency may be expressed by one or more cases in every generation, or it may skip one generation to reappear in the next. Inheritance is not merely a question of fathers and mothers, but the family tree goes further back.

Among the probable accidental or environmental causes of feeble-mindedness are injuries to the head at birth, blows or falls in infancy, inflammatory brain disease, toxemia from infectious diseases, abnormal mental or physical conditions of the parents, etc., or the absence of certain vital substances from the blood, as in cretinism. Cases of feeble-mindedness often occur in families where there has been no mental disease or defect for several generations, but even where the exciting cause is undoubtedly accidental, there is often a strong hereditary predisposition. Similar injuries or causes in sound families do not result in feeble-mindedness. In the majority of these cases the environmental causes are only accessory. The real origin of the disease lies in the defect of the germ plasm.

Certain types of defect are usually if not always due to accidental or sporadic causes, viz., the Mongolian, hydrocephalic, post-meningitic, the cerebral hemorrhagic, etc. Acquired characteristics are not likely to be transmitted, but there is reason for the belief that alcoholism, syphilis, tuberculosis and other environmental factors may initiate germinal variation which may become hereditary. The cases of purely accidental origin with no morbid heredity are not likely to be followed by other cases in that family. The purely accidental cases themselves would probably beget normal progeny.

To sum up, there is a large number of feeble-minded persons in our community. The great majority of these persons are feeble-minded because they come from a stock which transmits feeble-mindedness from generation to generation

\* Delivered at the annual meeting of The Massachusetts Medical Society, June 12, 1912.

in accordance with the laws of heredity. Many of the members of these families are not defective themselves, but to a certain extent these normal members of tainted families are liable to have a certain number of defectives among their own descendants.

There is a popular belief that feeble-mindedness is greatly on the increase. We do not know, and are not likely to know, whether or not there is now relatively more feeble-mindedness than there was fifty or one hundred or five hundred years ago. There is some reason for the belief that the remarkable shift of population from rural to urban conditions in the last half-century, with the resulting industrial and social stress, and a greater liability to syphilis, tuberculosis and alcoholism, has increased the ratio of defectives in the families with hereditary predisposition. It is certain that the feeble-minded girl or woman in the city rarely escapes the sexual experiences that too often result in the birth of more defectives and degenerates. At the same time the steady withdrawal of the more sturdy and virile individuals from the country to the towns leaves the ineffective and defective men and women in the country to marry and beget offspring even less efficient than themselves. Recent study of certain isolated rural communities in this state where the more vigorous families have migrated for several generations shows a marked deterioration in the quality of the population, with a large number of the feeble-minded and a notable amount of immorality, intemperance and shiftlessness. The defective persons in these communities are very apt to be attracted to each other, and to marry or to intermarry, thus intensifying the degenerative process. The members of this society are only too familiar with these rural foci of feeble-mindedness, immorality, crime and destitution.

The social and economic burdens of uncomplicated feeble-mindedness are only too well known. The feeble-minded are a parasitic, predatory class, never capable of self-support or of managing their own affairs. The great majority ultimately become public charges in some form. They cause unutterable sorrow at home and are a menace and danger to the community. Feeble-minded women are almost invariably immoral, and if at large usually become carriers of venereal disease or give birth to children who are as defective as themselves. The feeble-minded woman who marries is twice as prolific as the normal woman.

We have only begun to understand the importance of feeble-mindedness as a factor in the causation of pauperism, crime and other social problems. Hereditary pauperism, or pauperism of two or more generations of the same family, generally means hereditary feeble-mindedness. In this state there are families who have been paupers for many generations. Some of the members were born or even conceived in the poorhouse.

Every feeble-minded person, especially the high-grade imbecile, is a potential criminal, needing only the proper environment and opportunity for the development and expression of his criminal

tendencies. The unrecognized imbecile is a most dangerous element in the community. There are many crimes committed by imbeciles for every one committed by an insane person. The average prison population includes more imbeciles than lunatics. The term "defective delinquent" is applied to this special class of defectives where the mental lack is relatively slight, though unmistakable, and the criminal tendencies are marked and constant.

At least 25% of the inmates of our penal institutions are mentally defective and belong either to the feeble-minded or to the defective delinquent class. Nearly 50% of the girls at the Lancaster reformatory are mentally defective. The class of "defective delinquents" of both sexes is well known in every police court, jail, reformatory and prison. There is a close analogy between the defective delinquent and the instinctive criminals who form a large proportion of the prison rounder type. Under present conditions these irresponsible persons are discharged at the expiration of their sentences to lay tribute on the community, to reproduce their own kind, to be returned to prison again and again.

A very large proportion of the neglected and dependent children in the care of the state are feeble-minded and are the offspring of the feeble-minded.

Many of the immoral and diseased girls found in rescue homes and shelters are defective and absolutely incapable of reform or of self-support. Many prostitutes are mentally defective. A large proportion of the mothers of illegitimate children at Tewksbury and elsewhere are feeble-minded. In one county almshouse in Pennsylvania there were 105 mothers of illegitimate children, and of these mothers 100 were feeble-minded.

A majority of the parents prosecuted by the Society for the Prevention of Cruelty to Children for abuse of their own children are feeble-minded.

In England, 70% of the habitual drunkards who are dealt with under the "Inebriate Act" are mentally defective.

The modern intensive study of the family trees of individual degenerates, the insane, epileptics, criminals, prostitutes, hereditary paupers and the feeble-minded has emphasized the fact that these various conditions of degeneracy are often merely different phases or expressions of the same fundamental inferiority. In these degenerate families the form of defect varies from generation to generation, feeble-mindedness in one generation, pauperism or criminality in the next, and then some form of insanity, alcoholism, etc.

It has been truly said that feeble-mindedness is the mother of crime, pauperism and degeneracy. It is certain that the feeble-minded and the progeny of the feeble-minded constitute one of the great social and economic burdens of modern times.

The realization of these truths and the recognition of the strong tendency to hereditary transmission has produced a sort of panic on the part of those who have just learned of these facts. Visions of a feeble-minded peril in future genera-

tions are seen, and have resulted in a "wild panic for instant action." There is no occasion for hysterical, ill-considered action.

It is probable that intelligent study of the whole problem on a large scale will furnish data for adequate treatment and control. The full problem should be stated by a complete and permanent census of the feeble-minded of the entire state. This is possible by the co-operation of physicians, teachers, social workers, court and prison officials, local authorities, etc. Such registration would be analogous to the required notification and registration of contagious and infectious diseases, and would be the first step in the regulation and elimination of defective strains from the community. The State Board of Insanity has already begun an informal and tentative census of this sort.

In the light of our present knowledge, the only way to reduce the number of the feeble-minded is to prevent their birth. The perpetuation of defective family stocks should be inhibited. This would be possible to a great extent if every feeble-minded person and every potential "carrier" of the defective germ plasm could be prevented from parenthood.

There is already a strong popular demand for the logical and thorough application of our present knowledge of the laws of morbid heredity in the way of prevention. This state has begun the policy of the segregation of the feeble-minded, especially those of childbearing age. This segregation carried out thoroughly for a generation would largely reduce the amount of feeble-mindedness. The high-grade female imbecile group is the most dangerous class. They are not capable of becoming desirable or safe members of the community. They are never able to support themselves. They are certain to become sexual offenders and to spread venereal disease or to give birth to degenerate children. Their numerous progeny usually become public charges as diseased or neglected children, imbeciles, epileptics, juvenile delinquents or later on as adult paupers or criminals. The segregation of this class should be rapidly extended until all not adequately guarded at home are placed under strict sexual quarantine. Hundreds of known cases of this sort are now at large because the institutions are overcrowded.

Only 2,000 feeble-minded persons are now cared for in institutions in this state, and over 1,000 applicants are awaiting admission to the institutions. There is an urgent demand for greatly increased institutional provision for this class. The cost of this provision will be great, but not as great as the present cost of caring for these same persons, to say nothing of their progeny, in future generations. It would cost less money, be more economical in social life, and of immense value morally. These people are never self-supporting, but are eventually supported by the public in some way. From the economic standpoint alone no other investment could be so profitable, not even in canals or railroads or factories. The present generation is the trustee for the inherent quality as well as for the material welfare of future generations.

In a few years the expense of institutions and farm colonies for the feeble-minded will be counterbalanced by the reduction in the population of almshouses, prisons and other expensive institutions. When the feeble-minded are recognized in childhood and trained properly, many of them are capable of being supported at low cost under institution supervision.

Not that we regard the institution as the panacea for feeble-mindedness. If adequate institution provision were available to-day, it would not be feasible to secure the detention of large numbers of defectives, and those the most dangerous class, where parents or friends are unable or unwilling to see the necessity for such segregation. We have no laws compelling this action. The Anglo-Saxon respect for the liberty of the individual would make it difficult to enact laws compelling such custody. This difficulty could be approached by the suggested registration of the feeble-minded which would afford a basis for some sort of extra-institutional supervision and control. The observed misconduct and incapacity of many of these people would soon show the need of legal provision for their forcible segregation.

In a rational policy for controlling feeble-mindedness it is essential that we recognize the condition in childhood. Our compulsory school laws bring every child to official notice. Every case of feeble-mindedness should be recorded. At the proper time the parents should be informed of the condition of the child, of the necessity for lifelong supervision, and of the probable need of institution treatment. Sooner or later the parents will probably be willing to allow their child to be cared for in the institution. The parents who are not willing should be allowed the custody of their child, with the understanding that he shall be properly cared and provided for during his life, that he shall not be allowed to get into mischief and that he shall be prevented from parenthood. Whenever the parents or friends are unwilling or incapable of performing these duties, the law should provide that the child shall be forcibly placed in an institution, or otherwise legally supervised.

There are now special public-school classes for the feeble-minded in most of our cities and large towns. These classes insure diagnosis and treatment at an early age, they help to inform the parents as to the dangers of the condition and they admirably serve as clearing-houses for permanent segregation before adult life is reached. They should be extended and increased in number.

The mental defectives in our penal institutions should be recognized and transferred to permanent custody in suitable institutions and farm colonies and not discharged at the expiration of their sentences, to beget other defectives and to re-enter their careers of crime. We now have a law in this state authorizing the permanent control and custody of this criminal imbecile class which only needs the provision of suitable buildings to become effective. No other state or country has yet made similar legal recognition of these so-called "defective delinquents." The logical application

of this law would materially modify our present methods of dealing with certain classes of so-called "criminals" in the prisons, jails, reform schools and the courts. The elimination of these defectives from the prisons would increase the opportunities for reforming the normal offenders who are really capable of reform.

■ Compulsory surgical sterilization of all defectives is proposed as a radical method for preventing the hereditary transmission of feeble-mindedness. At least six states have passed laws authorizing or requiring this operation. In no state, however, has this remedy been applied on a large scale. There are many objections to this plan. The friends of the patients are not willing to have the operation performed. The normal "carriers" of defect would not be affected. The presence of these sterile people in the community, with unimpaired sexual desire and capacity, would be a direct encouragement of vice and a prolific source of venereal disease. Sterilization would not be a safe and effective substitute for permanent segregation and control.

It is probable that education in the broadest sense will be the most effective method in a rational movement for the diminution of feeble-mindedness. The public generally should be intelligently informed as to the extent, causation and significance by means of suitable literature, popular lectures and other means. There is now great demand for such information from women's clubs, church societies, charitable organizations, etc. General knowledge of this subject in a community will insure the rational protection and control of the feeble-minded persons in that community.

The principles of heredity, as they are unfolded, and especially of morbid heredity, should be taught in the colleges, the normal schools, and, indeed, in the high schools. The adolescent has a right to be informed on a subject which is of supreme importance to himself, to his family and to his descendants. The great majority of these young people will later marry and become parents. The dangers of a marriage with persons of diseased stock should be presented plainly. The young woman about to marry should be taught that her most important duty to herself and to her race is to choose a man of good heredity as the father of her children. The young man should be taught that the quality of the family stock of his future wife largely determines the health and efficiency and sanity of his children, and of his children's children. Those who have been privileged to address groups of young people on these subjects can but be deeply impressed with the breathless interest and appreciative understanding of their auditors.

The biological, economic and sociological bearings of feeble-mindedness have overshadowed the fact that it is fundamentally and essentially a medical question. Feeble-mindedness is a condition which is the result of certain permanent lesions of the central nervous system.

This subject should receive more attention in the medical schools. At the present time, only a

few schools in this country give any instruction whatever in the subject. General hospitals and dispensaries should have out-patient departments for the diagnosis and treatment of feeble-mindedness. These clinics would also provide for the instruction of students. No medical student should graduate until he has a general knowledge of the causes, varieties, prognosis and treatment of feeble-mindedness.

Every physician in general practice will find cases of feeble-mindedness among his patients. He has the unwelcome task of informing the parents of the misfortune of their child. He is called upon to advise as to treatment and life-long care and protection.

The prevention of the accidental type of feeble-mindedness largely depends upon the knowledge and skill of the physician in recognizing and in removing or modifying the environmental conditions which may cause the defect.

The recognized field of mental defect has been gradually extended and widened, and clinical types and degrees of feeble-mindedness are recognized by the alienist which are not yet familiar to the medical profession generally. It is most important that the physician should recognize the so-called "border-line" cases, where the intellectual defect is apparently slight, and is overshadowed by the immoral and criminal tendencies. These cases may be glib and plausible, often bright-looking and attractive, but are unable to apply themselves at school or at work without constant supervision, and are wholly indifferent to the consequences of their behavior and actions. The inability to get or keep a situation or to support themselves is most significant. These cases often present a bad family history, a personal history showing backwardness in infancy and school life, and the presence of various physical stigmata of feeble-mindedness. Psychological tests of these adolescents or adults show that they have a mental age of only seven or eight or nine years. In fact, they are cases of real feeble-mindedness differing only in degree and not in kind from the more obvious varieties.

The growing appreciation of the medico-legal bearings of feeble-mindedness, the increasing tendency of the courts to inquire into the mental status of persons accused of crime, and the widespread movement to recognize and treat mental defect in the public schools have created an urgent demand for the services of physicians skilled in the diagnosis of mental defect which cannot be met at the present time. Indeed, the social worker, the charity visitor, the teacher and the court official often recognize cases of feeble-mindedness which they are unable to properly treat and control because they cannot secure the co-operation of suitably qualified physicians. A medical diagnosis of feeble-mindedness is necessary before a case can be properly or legally considered.

If, as we believe, the prevalence of feeble-mindedness can be most effectively reduced by educational methods, the remedy largely depends upon the medical profession. The physician has



knowledge of family histories and tendencies. He has access to family councils. His advice in individual cases is eagerly sought and generally followed. He has exclusive opportunity to teach and inculcate certain accepted principles of practical eugenics.

The most important point is that feeble-mindedness is highly hereditary, and that each feeble-minded person is a potential source of an endless progeny of defect. No feeble-minded person should be allowed to marry, or to become a parent. The feeble-minded should be guarded or segregated during the childbearing period.

The normal members of a definitely tainted family may transmit defect to their own children, especially if they mate with one with similar hereditary tendencies. These potential "carriers" of defect should mate with sound stock, if they marry at all. If the hereditary tendency is marked and persistent, the normal members of the family should not marry. Certain families should become extinct. Parenthood is not for all.

Persons of good heredity run a risk of entailing defect upon their descendants when they marry into a family with this hereditary taint. Intelligent people are often willing to forego a proposed marriage if the possibilities of heredity are fully understood. The immediate sacrifice is less painful than the future devoted to the hopeless care of feeble-minded children. What can be more tragic than the familiar cry of the agonized mother, "If I had only known"?

The well-informed physician has the pleasant privilege of allaying the fears of those who misinterpret and magnify the possibilities of morbid heredity in their own families. It should be remembered that a single case of defect of accidental origin, with no hereditary tendency, is not likely to be followed by other cases in the same family. Indeed, a case of this sort may be found in a family where the other members are of exceptionally brilliant and gifted mentality. The ordinary family is safe and sound and whole, and is extremely unlikely to produce feeble-minded children.

In the annual discourse for 1907, Dr. Adams said: "A medical practitioner is, to a greater or less extent, a missionary. He is always finding and doing some work, unpaid or underpaid, for his fellow men, because his training and his position make such work possible and natural. In all philanthropic measures, he is to be relied upon as a helper, and in those pertaining to public health he is naturally a leader. He has unequalled facilities for disseminating knowledge, for awakening interest, and for guiding benevolence. The evidences of this influence are to be seen on every hand."

The imminent problem of dealing effectively with this burden of feeble-mindedness presents a fertile and pertinent field for the exercise of these extra professional activities and obligations of the medical practitioner. The community looks to him for education and guidance on this subject. Concerted action by the medical profession will surely create the strong public senti-

ment which will demand a prompt and effective plan for the proper care of all the feeble-minded of the state, and for the elimination of feeble-mindedness so far as that is possible.

### Original Articles.

#### EFFICIENCY TESTS OF OUT-PATIENT WORK.

BY MICHAEL M. DAVIS, JR., PH.D.,

Director of the Boston Dispensary.

THE stream of poverty, suffering and disease which pours into an out-patient clinic presents us daily with the question, "What results are we achieving?" From the medical standpoint, the out-patient department is usually the poor relation of the hospital, but in direct influence upon the masses of the people, it is actually the more important. The throng of patients pass to the clinical physicians, are seen by them and are gone; sometimes they come back for treatment, but often they do not. How correct is the diagnosis and how much ultimate benefit the patient derives from the treatment are matters which, in a large proportion of cases, are not ascertained nor even inquired into. We have as yet no organized standards of judging our accomplishments. Of the hundreds of thousands of dollars spent in maintaining out-patient clinics, — the annual expenditure in every large city would be several times this sum, — has a single thousand been devoted to systematic study of the results achieved, with a view to estimating efficiency, establishing standards and improving methods?

Literature on the public relations of out-patient departments is largely filled with discussion of so-called "abuse" of dispensaries by patients who are able to pay for a private physician. Diverse opinions and standards are current, but, with a few exceptions, such as a recent interesting attempt in Cleveland, no out-patient department has undertaken a study of the facts showing the actual social classes which are treated, graded on an economic scale and in proportion to relative numbers. Yet, without such facts we do not know the amount or kind of "abuse" which really exists, nor whether it can be remedied without either injustice to the medical profession or to persons of limited means who require the services of specially skilled physicians or surgeons.

In 1875 an interesting paper was read by George S. Hale, of Boston, before a meeting of the Social Science Association in Detroit. Mr. Hale saw that discussion in general terms was inadequate. As he said, "The first step is to get information"; that is, knowledge about the *people* who are receiving medical relief. The following questions, prepared by Mr. Hale for circulation among out-patient departments, show that he was endeavoring to measure the results achieved per unit of effort expended:

"Number of physicians and surgeons on duty.

"Average number of patients per doctor per week.

"Average time per patient per day, distinguishing old and new cases if possible.

"Average cost per patient per week.

"Number of free prescriptions given to patients.

"Average number of free patients who would be able to pay a moderate fee."

Mr. Hale was not, however, able to secure answers to these questions (except the first and the fifth) from the three out-patient departments of Boston of whom he inquired. Obviously there are only two ways in which an out-patient department *could* answer the last question. First, by guessing, basing the guess upon the admitting officer's impression of the patients he has looked at and upon his idea of what does constitute a moderate fee. This is "guess-work diagnosis" with a vengeance.

The other way to answer the question, and the only way to answer it scientifically, is to make a definite study of a number of individual patients selected at random, applying methods which modern social science has developed for finding out facts and for classifying them in ways that eliminate as far as possible the personal equation of the investigator.

#### EFFICIENCY TEST QUESTIONS.

The beginning of any successful work in this direction lies in the recognition that out-patient departments deal with two things: people and disease. Human disease exists only because there are people. In the excitement of being specialists, we sometimes see the matter the other way. The purpose of the clinic is not merely to relieve ailments, but to send forth each patient a better human being, richer in knowledge of how to maintain health. Two fundamental questions must, therefore, be asked:

1. What results are achieved by the institution in relation to disease?
2. What results are achieved by the institution in relation to the human beings who come to its doors?

To answer these inquiries we must form a set of statistical questions, designed more scientifically than those of Mr. Hale, and aiming to cover the medical as well as the social relations of clinical work. For example:

What are the medical results of the work?

How many patients (and what proportion of the total) come to the clinic only once? How many of these patients were suffering from diseases the cure of which requires consecutive treatment for some time?

How many patients (and what proportion) come to the clinic several times but fail to return before treatment, even under the best conditions, could be completed?

How many patients (and what proportion) receive adequate advice and instruction tending to prevent the recurrence of the disease from which they have suffered?

How many patients (and what proportion) come to the clinic continuously and receive treatment until essentially cured?

The only way to make responses to these inquiries of real value is to use the statistical method. This means that we must not narrate

the history of 10, 20 or 50 cases of which we happen to know the conclusion, but that we must investigate individually a number of cases (50, 100, 1,000) selected at random.

What are the social relations and results of the work?

What social classes, graded according to economic means, is the institution reaching, and what proportion of each?

How many patients (and what proportion) present social needs which must be met if the medical or surgical treatment is to be properly carried out?

What organized means has the institution for meeting the social needs of patients, and how many patients presenting such needs are served efficiently?

How many patients (and what proportion) have a margin of income over necessary expenditures so that they can sometimes employ a physician? What proportion of these patients, when they come to the clinic, have diseases or surgical needs which could not be dealt with adequately except by a specialist?

What are the different reasons which bring new patients to the clinic? Through what sources of information do they learn of it and its opportunities? What proportion of the patients come through each several source?

What proportion of the patients have previously had medical treatment, and where (at other medical charities or by private physicians)? How many have been sent by physicians? In a word, what have been the previous medical resources of the new patients?

This list of questions will serve to suggest the lines along which the following study has been shaped.

#### METHOD OF STUDY.

To the clinics of the Boston Dispensary, in which this study<sup>1</sup> has been conducted, approximately 100,000 visits are paid annually from about 30,000 patients. The purpose of this study is not to indicate results concerning a particular medical institution, but to suggest a method by which out-patient departments may study themselves. *What we most need is to know where and how we fail; or perhaps still more, the mode in which we can secure intelligent and effective self-criticism.*

For the purpose of such a test a certain number of patients were selected at random as a test group. By inquiry at the Dispensary, and by visits paid to the home by trained workers, the following information was secured about the patients: (1) Economic class to which patient belonged; (2) family and home conditions; (3) experience at Dispensary according to the patient's narrative; (4) medical diagnosis; (5) medical treatment; (6) outcome of medical and social treatment as indicated by clinical records and by home visits.<sup>2</sup>

For such a study any group of patients might be taken, provided they were selected at random. For this study all the new patients coming to

<sup>1</sup> The writer is under obligations to Miss Elisabeth V. H. Richards, head worker of the Social Service Department of the Dispensary for suggestions leading toward this investigation and for advice concerning the schedules; and to Miss Elisabeth Hamlen, Miss A. N. Jewett, Miss Janet Thornton and Mr. Geo. W. Warren, who carried on the home visiting.

<sup>2</sup> The writer will be glad to supply any interested person with information about the detailed methods used in the investigation, and with sample copies of the inquiry blanks employed.

the Dispensary on two days (Nov. 15 and 28, 1911) were taken as the test group. Following are the statistics:

Total number of patients, 116; 48 on Nov. 15, 68 on Nov. 28. Both days were below the average of the Dispensary in numbers, and there was an unusual proportion of men.

Among the 116 patients, there were 44 men, 36 women and 36 children (14 boys and 22 girls). Of the 80 adults, 42 were married or were members of a family group; 28 were single or lived alone.

Seven of the adults spoke no English; 33 of the patients were American-born of native white parents; 50 were American-born of foreign parents; 26 were foreign-born of foreign parents. In addition there were 2 colored and 1 American Indian. The nationalities of six were unknown or doubtful.

On these two days *all* applicants for treatment were admitted whatever the examination disclosed as to financial ability. Any other procedure would have introduced an element of selection. The study was thus not a test of the admission desk's efficiency, but a medical-social survey of the patients applying for treatment.

The economic classification of patients is not an easy matter. Only very careful inquiry by trained investigators can secure an accurate statement of the annual money earnings of a family. It is often impracticable to make such an inquiry at the admission desk or even to elicit the facts at a few home visits. In practice, in this inquiry, money earnings were asked, but were not made the sole ground of economic classification. Very important assistance is given in interpreting statements of money earnings by knowledge of the *occupation* pursued by the wage-earner of the family. Most occupations have fairly well-recognized standards of pay and conditions of work as to continuous or irregular character. The economic classification was based on the following set of facts, considered together: Occupation, length of time in occupation, regularity or irregularity of work and money earnings (when these could be ascertained). In the case of children, and of adults who are not wage-earners, the classification is that of the family to which the individual belongs. The classes in which patients have thus been grouped follow in general those which were adopted by Charles Booth in his monumental study of the "Life and Labor of the People of London." Each group represents an assemblage of individuals presenting well-marked similarities in their economic problems.

#### ECONOMIC CLASSIFICATION OF PATIENTS.

The following table shows the classification of the 116 patients in these economic grades.

Casual laborers,	8
Unskilled labor, low paid, irregular work,	21
Unskilled labor, low paid, regular work,	36
Total of unskilled and casual labor,	65
Skilled labor, irregular work,	13
Skilled labor, regular work,	19
Total of skilled labor,	32

Clerical work,	9
Business (managers or owners),	6
Professional occupation,	1
Total of clerical and higher grades, <sup>3</sup>	16
Total,	113
Patients living in an institution,	2
Information insufficient for grading,	1
Total,	116

Thus, 56% of the patients are in the grades of unskilled labor or below; 28% in the class of skilled labor and 14% are in the clerical or business groups.<sup>4</sup>

It would be an error to draw from these percentages any direct inference as to the proportion of patients who could have paid a private physician. "Eligibility for dispensary treatment" cannot safely be determined from economic grade alone. The members of the family of a clerk earning \$18 a week, with six young children, may be much more suitable subjects for "medical charity" than an unmarried laborer earning \$12. The one conclusion which can be safely deduced from the present study is that the matter of "dispensary abuse" is an open question. Admittedly it is a problem, in some respects a serious one. But there is no general agreement as to the standards according to which the eligibility of patients shall be decided. It is clear that many facts must be taken into consideration, besides the apparent money earnings of the chief wage-earner; facts such as the number and age of the other members of the family; the wages earned by them, if any; the regularity or irregularity of employment; the nature of the disease from which the patient suffers and the cost and accessibility of the medical or surgical service required for adequate treatment.<sup>5</sup>

The economic classification of patients is indeed a step in determining those whom a dispensary should exclude. It is also the chief step in the more constructive work of aiding the treatment of those patients whom the dispensary accepts. The present paper is primarily written with the latter aim; and the bearing of the facts upon the problem of "abuse" must be a subject for separate consideration.

#### HOUSING CONDITIONS.

A significant index to the circumstances of a family is obtained from data of home crowding (number of persons per room). The following table presents these facts in correlation with economic grade. In interpreting these data, it must be borne in mind that the figures are obtained by dividing the total number of rooms in the house or tenement by the total number of

<sup>3</sup> For interpretation of the economic condition of patients of these grades see below.

<sup>4</sup> Subsequently another set of patients of the Dispensary, 1,388 in number, were similarly classified on the basis of an admission desk examination alone. The corresponding percentages were 50.4, 37.6 and 12.2.

<sup>5</sup> The one family of professional grade noted in the table on this page is an illustration. This is a family with four young children and widowed mother supported by the eldest son, a struggling young lawyer. They have had to be aided by charity several times during recent years.

persons (family and lodgers) dwelling in them. Therefore, a congestion of two persons per room may mean three or four per sleeping room.

The number of persons per room shows an average increase as we descend each grade down from the skilled regular laborers. On the other hand, many of the clerical and business families are living under conditions of greater congestion. This is partly because families of these groups pay something for location, or, so to speak, sacrifice quantity of space for quality. The

Were sent by charitable agencies,	5
Were sent by school doctor or school nurse,	9
Were sent by private doctor,	5
Total,	93
Information not obtainable,	23
Total,	116

#### PREVIOUS MEDICAL RESOURCES OF PATIENTS.

Insufficient information (including 5 living out of town),	25
Had had no previous medical treatment,	2

#### HOUSING CONDITIONS AND ECONOMIC GRADE.

Economic grade.	NOT CLASSIFIABLE.				CLASSIFIED ACCORDING TO PERSONS PER ROOM.						
	Living alone.	Out of town.	Insufficient information.	Wrong address.	Total.	1 persons per room or less.	Over 1 person per room.	1 to 1½.	1½ to 2.	2 or over.	Total.
Casual,	3		2	2	7					1	8
Unskilled, irregular,	5		4	3	12		2	3	3	1	21
Unskilled, regular,	3	3	3	5	14		5	13	4		36
Skilled, irregular,	3	1	2	1	7		1	4	1		13
Skilled, regular,	1	2	4	1	8	2	4	5			19
Clerical,	1		1	1	3	1	3	3	1	1	9
Business,			1		1			4	1		6
Professional,					0				1		1
Institution,					2						2
Total,	16	6	17	13		3	12	32	11	3	115

explanation in most cases, however, is that about half of the clerical and business families are, despite the character of their occupation, on the brink of poverty, either because of slack trade, illness, temporary misfortune or large families of young children. For example:

Miss X., a patient suffering from dermatitis and scabies, earns \$4.50 a week. Her father is an independent teamster and mover, owning all there is of a small business. There are five other children, one earning \$6 a week, but her work is not steady. The remainder are at school. Father's business has been bad; usually is during winter season; has been making very little lately. They have had to take three lodgers to help out, so that eleven persons live in seven rooms. Family is struggling to keep up appearances; but while father's business is in its present condition they have no margin.

Further suggestive facts are the number of patients who were known by the Confidential Exchange of Information (maintained by the Associated Charities of Boston) to have been previously in receipt of aid from some organized charitable society. Of the casual grade, 2 out of 8 were thus known; of the unskilled laborers, 18 out of 55 — 50%; of the skilled laborers, none out of 29; of the clerical and business groups, 2 out of 15. Of course, a good deal of charity is given, particularly by religious and neighborhood agencies, that is never registered at the Confidential Exchange, but the contrast between the unskilled and skilled labor groups is very noteworthy.

We now come to data which bear more directly upon medical problems.

#### REASONS GIVEN BY PATIENTS FOR COMING TO DISPENSARY.

Suggested by a friend,	33
"Had often heard of place,"	4
Lived close by,	3
Had relatives who were or had been patients here,	24
Patients themselves had been patients at previous times,	10

Had had medical charity only at confinement, and no other medical service,	9
Had had only charity doctors at out-patient departments or hospitals,	38
Had had medical treatment at charitable institutions of which they were inmates,	3
Had employed, in addition to medical charity, a private physician a few times during their lives,	7
Employed, in addition to medical charity, lodge doctor,	2
Had been sent by private doctor whom they had employed,	5
Had employed private doctor, but came to Dispensary because dissatisfied with his treatment,	8
Had employed a private doctor more or less but came to Dispensary because they believed they needed a specialist,	2
Employed private doctor as a fairly frequent family resource,	15

These groups may be classified according to economic grade:

None of the patients of the casual labor group have ever employed a private doctor.

Forty-one out of 57 cases in the unskilled group have depended only on medical charity; and of the remaining 16, only 3 have employed a private doctor as a frequent family resource.

In the skilled labor group, 17 out of 32 have depended only on medical charity and 5 have employed a doctor as a frequent resource.

In the clerical and business groups 6 have been continuously unable to employ a paid doctor, while the same number have employed one as a frequent resource.

While an investigation of so small a number of cases cannot properly be used as a basis for conclusions, it does raise many old and perhaps some new questions, and suggests that answers may best be secured through careful social and statistical inquiry. For example:

\* The diagnoses recorded of these 15 patients will be of some interest. Gonorrhea, 3; syphilis, 3; bronchitis, 2; hypertrophied tonsils, 2; and one each of sprain of foot, goitre, hypertrophied cervix, staphylococcus infection, dental caries. Two of the syphilis and 2 of the gonorrhea cases lived in small suburban towns.

To what extent does a patient's choice (when he has a choice) between dispensary and private treatment for a certain disease involve a question of relative efficiency in getting results through these two means? Is such efficiency, in various neighborhoods of a city, a proper subject for investigation? To what extent does judgment upon such a question depend on the nature of the disease involved and the degree of special skill and equipment required for its cure? Is a patient who states that he has paid a small fee (say 50 cents) per visit to a private doctor, for several visits without results, and that this rate is all he can afford, entitled to discharge the doctor and come to a dispensary? In general, should the employment of a private physician by a family as a fairly frequent resource disqualify any member of the family from dispensary treatment? Again, to what extent should the nature of the disease be taken into account?

#### MEDICAL RESULTS.

Estimation of results achieved with patients may be made by two methods.

First, Tabulate the number of clinic visits paid by patients classified according to medical diagnosis.

Second, Study the clinical records showing the results of his visits and compare this record with what is learned of the condition of the patient from his own statements when seen at home.

The first method is not properly applicable except when patients suffering from a particular disease are taken as a group by themselves. Obviously two visits paid by a patient requiring emergency dental treatment or examination for eyeglasses may yield real results, whereas the same number of visits in a case of syphilis or neurasthenia include only the beginning of treatment.

Among the 116 Dispensary patients, over fifty different diagnoses are noted and the maximum number having the same diagnosis is only seven. The efficiency test based on the number of visits per patient classified by diagnoses cannot, therefore, be applied to this group. Such a test needs to be worked up in particular clinics with a medically homogeneous group.<sup>7</sup>

By the second method, basing conclusions on the clinical records plus home visits, the results of the medical treatment appear to be as follows:

Information not obtainable,	14
Continued treatment till cured or substantially relieved,	27
Continued treatment and improved,	31
Continued treatment but did not improve,	4
Paid only one visit without determinate result,	16
Ceased to return before completion of treatment,	17
Cases pending at time of compilation of statistics,	7
	116

Thus, of the 102 patients whose outcome is known, those who were cured, relieved or improved or who continued treatment regularly constitute 61%; while in 33% of the cases no result was reached. It is evident that this one third is a minimum estimate.

<sup>7</sup>Examples of such studies were recently presented by the writer in Atlantic City, before the Hospital Section of the American Medical Association. Tests of this kind should enable us to find the weak spots in clinical work, to judge the relative efficiency of different methods of services, and to establish standards for dealing with particular diseases.

#### HOW TO REDUCE WASTE EFFORT.

Other studies ought to be conducted by similar methods, in this and in other out-patient departments, so as to secure a broader basis for estimating the percentage of results achieved. Obviously, whether the proportion of waste effort is as much as one half, as small as one fifth, or, as in this case, is one third, our aim should be to reduce it.

Where lie the causes of this waste?

The efficiency of an out-patient clinic depends on five factors: (1) The skill and training of the physicians and surgeons; (2) the quality and extent of the medical and surgical equipment rooms, instruments, laboratories, supplies, etc.; (3) the administrative organization of the institution as a whole; (4) the provision of trained assistants, such as clerks, nurses and social workers for the clinics, and the proper organization of this staff; (5) the extent to which the institution deals with the social problems of patients' lives, which run alongside their physical condition and powerfully affect the continuity and practicability of adequate medical treatment.

The first and second conditions we may take for granted. As for the third, we may well ask to what extent the rules, fees and general routine (so-called red-tape) of the institution are adapted to the patients as human beings as well as to administrative convenience. To be really efficient, the administrative organization must be worked out from both standpoints.

The fourth and fifth conditions of efficiency present problems to which little attention has consciously been given. Despite the fact that the clinics of this country affect annually the health of hundreds of thousands of the masses of the people, there has been slight discussion at meetings and hardly any literature concerning the technic of clinical organization. In way of meeting the social problems of patients, social service departments have been established at some institutions and are beginning to be considered as more than "fads and frills" in medical work. The future holds further development along the lines of improved organization and of enlarged social service departments. *We cannot, however, work out either of these problems unless we establish efficiency tests of clinical work,* so that we can estimate how far the new methods yield improved results, and to what extent these additional results are worth while as compared with their cost.

One of the chief clinical wastes in practice is due to the failure of patients to return for treatment. This failure may be caused by any one of the five factors above named. The corrective lies partly in increasing the skill and interest of physicians and in bettering the equipment and organization; but very largely in the development of definite systems of follow-up work. Social service departments represent one form of this. But the methods and technic of their work need to be studied out more fully in relation to all classes of clinical patients as well as to the

selected cases with which they have thus far dealt. The follow-up work must be based on a social diagnosis of patients, made by trained social workers at the admission desk and in the clinics. This service to the institution will be rendered largely through the social service department, and to reach its maximum of effectiveness the department must be an integral part of the organization and under the control of its management. If the department is governed by an outside committee and is not under the direct control of the executive of the institution, it is difficult or impossible to have that intimate connection of the social with the medical work without which neither can be at its best.

The problems of clinical organization and of follow-up work run outside the limits of the present paper. We cannot approach such problems, however, without raising a large general question. How much effort should an out-patient department make to bring patients back? These patients, some will feel, are receiving the benefit of free medical treatment. If they do not return to take advantage of it, theirs is the loss. Why should the physician or the institution be concerned about them? A little consideration makes clear that here are two points of view which are somewhat conflicting. From one standpoint we consider the medical material coming to a clinic, its scientific value and educational uses. From the other standpoint we consider the service which the out-patient department renders to the community through curing or preventing disease among certain groups of individuals. An out-patient department which should take the position that the failure of a patient to return is solely the patient's loss is seriously remiss in its public duty. Medical treatment must not indeed be forced upon patients (unless they are suffering from serious contagious diseases), but a semipublic institution such as an out-patient department should make a reasonable effort to see that the ignorance, carelessness and social conditions which prevent the completion of treatment are overcome. It is obvious that strictly medical work is also much more satisfactory when cases can be followed to conclusion.

The modern demand for higher efficiency in all vocations has led, in the sphere of out-patient work, to two developments. First, the demand of the medical profession for improved technical facilities for medical and surgical work — surgical equipment, laboratories, record systems, nurses and clerical help. Second, the public demand, founded on the developing social consciousness that the preservation of health is a public necessity and economy, and leading to organization for meeting the social needs of patients, for co-operating with municipal and charitable agencies and for larger co-operation among medical agencies themselves. From this public demand, the establishment of social service departments is only one outcome.

Both demands must be met by out-patient departments. They must study conscientiously,

and with scientific methods, how to test their own work on the basis of its public efficiency, and how to meet the test.

#### SUMMARY OF POINTS MADE IN THIS ARTICLE.

1. The work of out-patient departments is of great public importance, but despite the large sums devoted to it annually, no systematic tests of its efficiency have been devised.
2. The ordinary method of judging out-patient and similar medical work is by the "method of adventitious memory"; e. g., telling about cases the results of which happen to be known.
3. The proper method of applying an efficiency test is the statistical method, by which a number of cases selected at random are studied as a whole in order to ascertain the different results achieved and the relative proportion of each type.
4. Out-patient departments must ask themselves two questions; first, results attained with relation to disease; second, those secured in improving the human beings who come for care.
5. An efficiency test based on these principles leads to the study of a group of patients selected at random, conducted partly by persons trained in social investigation and partly by examination of the medical data secured during visits to the clinic.
6. A study of this type conducted at the Boston Dispensary, upon a group of 116 patients, reveals the social and economic classes to which they belong, their previous medical resources, their present medical and social problems and the medical results achieved.
7. The discussion of so-called dispensary "abuse" has suffered because of lack of social facts secured in this way; and because of consequent absence of recognized standards.
8. In determining the eligibility of patients for treatment, the character of the disease from which the patient is suffering and the provision of medical service in the community for that particular disorder must be considered as well as financial condition.
9. The study of the 116 patients of the Boston Dispensary indicates that in one third of the cases no result was reached because of the failure of the patients to return for the treatment which the first visit had shown to be required. This is a minimum figure for the medical waste in this group.
10. An increase of efficiency (including the reduction of the percentage of medical waste) depends on various factors, particularly on clinical organization and on an organized follow-up system.
11. Follow-up work, to be most efficient and economical, must be based upon social diagnosis and classification of the patients, and this must be done chiefly by specially trained social workers assigned to service in the clinics under the direction of the physicians.
12. Only by systematic efficiency tests, based on medical and social studies of groups of patients selected at random, is it possible for an out-patient department to organize its work on a basis of maximum efficiency and economy.



Some further steps in the development of efficiency tests appear to lie along the following lines, which the writer is endeavoring to pursue:—

a. A study of larger groups of patients with a view to fuller knowledge of the social classes coming for out-patient service and their relative proportions. This study can be made largely at the admission desk.

b. The study of special groups in particular clinics, with a view to working out efficiency tests for the guidance of physicians and the improvement of clinical methods.

c. The different methods of follow-up work, including clinical methods, clerical systems, and social service; the types of patients to whom the various methods may best be applied and the relative proportion of these types.

d. Methods of social diagnosis: analysis of the chief social diagnoses found in out-patient work and of the medical and social problems usually involved in each.

e. The cost of clinical and of follow-up work: the basis on which cost should and can, practically, be reckoned, in order to estimate relative economy and efficiency.

#### IS THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS BEING CARRIED TOO FAR?\*

BY JOHN B. HAWES, 2d, M.D.,

*Assistant Visiting Physician; Director Tuberculin Clinic, Massachusetts General Hospital; Secretary, Board of Trustees of Massachusetts Hospitals for Consumptives, Boston.*

To many the question asked in the title of this paper may seem unnecessary or even absurd. Indeed, until comparatively recently I should have thought so myself. During the past year, however, I have been struck by the conservative attitude taken by many physicians as regards the diagnosis of tuberculosis, and by the fact that there are very many who will not make a definite diagnosis until bacilli are demonstrated in the sputum. This feeling may be confined, and I hope is confined, to a very small proportion of physicians; but among my own acquaintances I have found it sufficiently well marked to lead me to consider the reasons for the existence of this point of view and the arguments for and against it.

The reasons which I have heard raised in favor of a more conservative attitude in diagnosing tuberculosis are somewhat as follows:

1. Many wrong diagnoses are being made, and as a result many non-tuberculous patients are being sent to sanatoria and health resorts.

2. Such patients in whom wrong diagnoses are made and who are sent to a sanatorium run a grave risk of catching tuberculosis.

3. Furthermore, it is a great injustice and source of hardship and injury to place on any one who does not deserve it what is called "the stigma of tuberculosis."

4. A few hold the view that a diagnosis of tuberculosis is rarely justified unless bacilli are present in the sputum.

5. It is not right to "break up the family" and

send away the breadwinner, etc., unless the evidence is positive, and by the term "positive" is meant "positive sputum."

My own replies to these statements which I propose to discuss in this paper are briefly:

1. Very few wrong diagnoses are made in calling patients tuberculous when they are not so, while the reverse is true to an alarming extent.

2. There is no danger of catching tuberculosis in properly managed sanatoria.

3. The "stigma of tuberculosis" is more a term than a fact, and no harm either physical or social is done to patients sent to a tuberculosis sanatorium because of a wrong diagnosis.

4. The best authorities agree that early diagnosis must be made before there is a positive sputum.

5. It is not only right to "break up the family" and send away the breadwinner if there is good reason to believe that he has tuberculosis, but also wrong and unjust not so to do.

Taking up these questions more in detail: Are many wrong diagnoses being made, and are many patients who prove not to have consumption being sent to sanatoria as a consequence? At the Massachusetts State Sanatoria at Rutland, North Reading, Lakeville and Westfield, which together furnish a total of about 875 beds, and at which over 1,984 patients were treated last year, the percentage of non-tuberculous cases was about .4% approximated. The same proportion holds true at our private sanatoria and shows that as far as Massachusetts is concerned the percentage of non-tuberculous patients sent to our sanatoria is slight.

The second point raised is that these non-tuberculous patients run a grave risk of catching the disease at the sanatoria. The only answer to this question is that it is not so. I have communicated with the leading medical consultants of Boston, the superintendents of our state and private sanatoria, and all those making a special study of tuberculosis in this state, in addition to forty-one general practitioners in Massachusetts, and have been able to find only two instances in which the physician thought harm had been done in this way. In neither instance, however, was the physician willing or able to give me the details of the case. It has been the experience of our superintendents and of all of the men in charge of our sanatoria that such rare cases of asthma, bronchitis, etc., or those who are simply run down and anemic, sent to sanatoria as tuberculous not only do not get tuberculosis, but are improved in every way. A few days ago I was talking on this subject with a hard-working Irish woman who had spent six months at Rutland because of what I believed to be a mistaken diagnosis. I told her that I did not believe she ever had consumption and asked her whether she regarded the six months spent at Rutland as time well spent or not: "Why, doctor," said she, "I don't care whether it was consumption or not, but they made me ten years younger up there!" Such cases as this can be endlessly multiplied.

Thirdly, is there a "stigma of tuberculosis,"

\* Read at a meeting of the Brockton Medical Society, April 11, 1912.

and is there any social harm done the patient by attributing his symptoms to tuberculosis and treating them as such? My own answer, as stated above, is decidedly no; a detailed search from the sources given above confirms this view. Ten years ago I should have felt differently; at the present time, however, if a patient leaves a sanatorium either as "cured" or as "non-tuberculous" I am unable to see how his or her social standing is in any way affected. The patient is not socially ostracized, nor are his chances of getting a job lessened simply because he has been to a sanatorium for consumptives.

The fourth and fifth questions are most vital ones. Particularly among the older members of the profession there seems to be a feeling that it is unwise to make a definite diagnosis of tuberculosis unless tubercle bacilli are present in the sputum. One eminent physician said that *as a rule* he thought that the physical signs and the microscope should coincide, and that it is not wise to send a breadwinner to a sanatorium unless the evidence is positive. A second believes that it is *occasionally* justifiable to make a definite diagnosis without bacilli in the sputum, but adds that a breadwinner ill of something pulmonary, which stands in the way of his earning power, should have the early advantage of skilled sanatorium teaching and treatment. Of the 41 general practitioners of whom I asked this question, 8 demanded the presence of bacilli before making a diagnosis and 33 were willing to make a definite diagnosis without this. All of the tuberculosis specialists and superintendents of sanatoria naturally took what I believe to be the only tenable ground—that it is folly to wait until bacilli are present before instituting rigid treatment, and that among the poorer classes at least rigid treatment means sanatorium treatment; on the other hand, the physicians who hesitate to make a definite diagnosis and if necessary to "break up the family" are responsible for large numbers of advanced cases now trying to get into our state sanatoria and for the many tragedies daily taking place around us, when the breadwinner of a family suddenly wakes up to the fact that he is not only a consumptive but that his chances of cure are gone. The following letter of Dr. H. D. Chadwick, Superintendent of the Westfield State Sanatorium, puts all this so clearly and so well that I cannot forbear quoting it.

"I am aware of the feeling existing among physicians that they must not notify patients that they have tuberculosis until bacilli are found in the sputum. Another handicap under which sanatoria are working is the belief that closed cases of tuberculosis will become infected if obliged to live side by side with advanced cases in a sanatorium. This helps to keep sick cases at home until they become more advanced and until their chances of recovery are vastly lessened.

"I have never in the course of my experience had any reason to think that any patient was made physically worse on account of being placed with more advanced cases. I have had several non-tuberculous

patients, some of whom remained several months in close association with open tuberculosis. Two of these had chronic valvular disease of the heart. The symptoms simulated tuberculosis so closely that only prolonged observation and tuberculin tests could eliminate that infection. Both of these patients after several months in the sanatorium died from cardiac disease. At autopsy no evidence of acute or healed tuberculosis was found in one case. In the other there was a little pleuritic thickening that might have been a very old healed tuberculous pleurisy.

"We had several other cases, including two with chronic asthma, who did not respond to tuberculin test either on entrance or while under observation. Each one of these remained several weeks and their general condition improved in every way. I should have liked to have kept them longer if the beds were not so urgently needed for tuberculous patients.

"I have never yet known the nurses or other employees to contract tuberculosis in a sanatorium; on the contrary, nearly all nurses improve in physical condition while at work.

"I have helped many discharged patients to obtain work and have yet to find any employer who will not hire ex-patients when he is assured that the disease is so well arrested that the man is able to do a day's work without injury to himself and that there is no danger of infecting others. Discharged patients are now at work in the vicinity of the Westfield State Sanatorium. These have been hired by their employers after consulting with the sanatorium as to their physical condition. They are not ostracized either socially or by business men because of their having had tuberculosis and been treated in a sanatorium.

"Physicians should take their patients into their confidence and tell those with signs of incipient tuberculosis that it is better for them to think that they have tuberculosis and take the proper treatment for a few months than it would be to wait for bacilli to appear in their sputum. They should emphasize the fact that when that occurs the period necessary for cure will be extended from months into years, and that the presence of bacilli in the sputum almost invariably means that the incipient stage has passed.

"The doctors who take sanatorium patients' histories hear the family physicians reviled and damned very frequently because the patients were put off by evasive answers and needless delays until their tuberculous condition was so apparent that they did not require a physician to make a diagnosis.

"Often patients are induced to take sanatorium care by the advice of cured ex-patients against the wish of the physician who has had them in their care. In other words, they are more willing to go to a sanatorium than physicians are to send them.

"I have never yet known a mistaken positive diagnosis to injure a person socially or physically, while, on the contrary, the physician who hesitates and evades is responsible for the very large preponderance of advanced cases applying for admission to the sanatoria. The persons who reach the stage of advanced tuberculosis without a diagnosis being made and proper treatment instituted should be only those who have delayed seeking medical advice. I believe that the great majority of advanced cases have consulted a physician when in the incipient stage, but have been allowed to drift along into an incurable condition."

One of the frequent diagnoses made at the Out-Patient Department of the Massachusetts General Hospital is "Ph?" which simply means that the physician suspects tuberculosis but is not sure enough to make a definite diagnosis.

In many such instances this diagnosis is one quite right and proper to make *provided that it is only a temporary* diagnosis and provided that *something is done for the patient*.

I have recently studied the records of 34 consecutive cases taken from the Out-Patient Department of the Massachusetts General Hospital from September, 1910, to June, 1911, in which the diagnosis of "Ph?" was made. Of these 34 cases there were 18 in whom either the suspicious symptoms and signs entirely disappeared after a few weeks of treatment at the Out-Patient Department or else their condition was found to be due to something else. Omitting from this series, then, these 18 cases, there remains 16, or 44.1%, in whom the diagnosis of "Ph?" was made apparently because there was not sufficient evidence to justify the examining physician in making a definite diagnosis of pulmonary tuberculosis and in treating the patient accordingly. These are worthy of careful study as bearing on the subject under consideration.

The following is a brief summary of the striking features of these 16 cases. Their ages varied from fifteen to fifty-seven years; there were 7 females and 9 males. The local symptoms referred to the chest were pain, 3; hemorrhage, 6; cough, 11; raising of sputum, 2; and pleurisy, 1. The general constitutional symptoms were weakness, 5; night sweats, 1; loss of weight, 4; 2 patients came to the hospital because they wished to be examined; 1 came on account of stomach trouble; 2 of the women were pregnant; 2 were hoarse and supposed to have a tuberculous larynx, and 1 patient had spent several months at Rutland ten years ago. Six patients had an elevation of temperature and a pulse of 90 or over. In 2 cases an x-ray was taken; in 1 case the report was "Tuberculosis in both lungs," while the other was negative. In 7 cases the sputum was not examined, in 8 it was negative, while in one case "1 doubtful bacillus" was found. The lungs were negative in one instance and in one other there was no record of any examination. Of the remaining 14, there were râles and increased signs (including vocal and tactile fremitus, breathing, etc.) at one apex in 8 cases; at both apices in 2 cases; increased signs without râles at one or both apices in 3 cases, while in 3 there were râles, dullness, etc., at one or both bases. Of these 16 patients, 3 made three visits to the Out-Patient Department; 3 attended the clinic twice only, while in the case of 10 the first visit was also the last. In 6 cases there was, together with the diagnosis "Ph?" an additional one, namely, exophthalmic goitre, thyroidism, laryngitis, pleurisy and pregnancy. As regards advice given these 16 patients, I found that 3 were prescribed "hygiene," 1 refused treatment, 6 were told to return with their sputum but did not, while in the case of the remaining 6 there is no record of any advice being given.

These cases are examples of what I call hyper-conservatism in the diagnosis of pulmonary tuberculosis; the result has been that because of fear of making a mistake and unwillingness to

commit himself definitely on the part of the physician, these patients have received little or no treatment, and, what is worse, have gone away either feeling that there was no danger of their having consumption or else in a still unsettled frame of mind.

At the last meeting of the National Tuberculosis Association it was suggested that in addition to the present classification of incipient, moderately advanced and advanced, a further division be added, that of "tuberculosis suspected," or some such term. At the present time every physician comes across many cases which it is not possible to put into any one of the divisions of the present classification. Personally I believe that our entire classification should be altered and broadened, and I am strongly in favor of adding this term, "tuberculosis suspected," or some other similar term, *provided* that physicians do not use it to cover their own inability or unwillingness to make a definite diagnosis, but explain to the patient the exact state of affairs, that tuberculosis is suspected, and whether the symptoms are due to it or to some other condition, the only safe course to pursue is to act as if it were present.

#### SUMMARY AND CONCLUSIONS.

In summing up this subject, then, it seems to me that the evidence as I have been able to gather it from the best sources available is strongly against any proposition that the early diagnosis of tuberculosis is being carried too far. Very few non-tuberculous patients are admitted to our sanatoria; there is no evidence that any harm is done, or anything but good accomplished by admitting such patients; the "stigma of tuberculosis" is more a fiction than a fact; homes are not wrecked by sending away the breadwinner who has suspicious symptoms, but, on the other hand, tragedies of the most pathetic nature are daily being enacted around us on account of hyper-conservatism and unwillingness on the part of the physician to make a definite diagnosis and to institute efficient treatment. Finally, I believe that while the diagnosis of "tuberculosis suspected" or "Ph?" is a perfectly proper and right one to make in many instances, it should be regarded as only a temporary or provisional one, and that the patient should be followed up until the diagnosis of his condition can be made definite one way or the other, while in the meantime he is given proper treatment and has the exact situation clearly explained to him.

#### A "LIBRARY-MUSEUM" IN MEDICINE.\*

BY THOMAS ORDWAY, M.D., BOSTON.

1. Origin of museums and libraries.
2. Unity of interest.
3. Division of labor.
4. The medical museum.
  - a. The general museum — past and present.
  - b. The departmental collections — difficulties, advantages, objections.

\* Read at the fifth stated meeting of the International Association of Medical Museums, Philadelphia, Pa., April 4, 1912.

## 5. The "library-museum."

- a. Scope and purpose — active co-operation in medical school teaching, research and public service.
- b. Organisation and development — staff, accessions, catalogue, arrangement.
- c. Relation to departmental collections and medical libraries.
- d. Restrictions in specimens and clientele.
- e. Value to departments of medical schools.
- f. Requisites for success — staff, finances.

THE inclination to collect is almost universal; the "chase" in acquiring is fascinating, the sense of ownership satisfies. This is seen early in the child; it is marked in boyhood and youth — collections of stamps, minerals, butterflies; in the adult — books, objects of art, curiosities, hunting trophies, — but it is, however, often obscured by the overwhelming desire for money and power. Many museums have their beginnings or are supplemented by collections privately acquired, brought together for permanent preservation and appropriately arranged for public enjoyment and education. Museums, in fact, have been found to furnish the best agencies for preserving the records of advancing knowledge.

For this object also we owe the establishment of the library, which in the earliest times was in the temple, the priests acting as custodians. In Assyria, tablets of clay served the purpose of books, and in one of the ancient Egyptian libraries is recorded an inscription in Greek words meaning "The dispensary of the soul." In early times (and in some places at present) the library and museum were often under one roof and had a unity of interest. The separation has been largely artificial and arbitrary, and due, in great part, to limitations of space and money. At Alexandria, the larger library was in connection with the museum as a sort of academy. The British Museum, including the library, was established in Montague House, and in many municipal museums and libraries of England the librarian is also curator of the museum.

Natural growth and development, necessarily leading to a division of labor in all departments, has caused not only the separation of the library from the museum, but the establishment of numerous special museums, as, for example, geology, botany, zoölogy and medicine. These special museums contain not merely interesting collections for public amusement, but are important educational agencies in the exposition of scientific truths.

The medical museum is, however, very apt to be regarded by the layman as a "chamber of horrors," which many avoid and into which but a few venture, and these often through morbid curiosity. Our general medical museums have originated from the collections of individuals and the overgrowth of departmental museums. Too many are random acquisitions of "curios" and much rubbish, brought together without method or system, and which contribute very little to the advancement of medicine. However, certain general medical museums, unhampered by a narrow conception of their utility as adjuncts

to the work of the various departments, have been of great value in teaching. At McGill University there is the particularly active co-operation of the general medical museum in practical class teaching.

Because, for various reasons, it is not always possible to secure such efficient aid, and for the sake of convenience, many departments have "working" collections which are used to a greater or lesser extent to supplement teaching. There is too often great difficulty in the proper preparation, housing and cataloguing of these collections by the department because of the expense, insufficient space, lack of time or interest. As a result, such collections are of less practical value, and many excellent specimens are destroyed or lost. Two years ago I described a very simple and inexpensive departmental or "working" museum, chiefly utilized to supplement the teaching of pathology, with particular reference to the case system.<sup>1</sup> The simplicity, flexibility and minimal expense of this museum, its value in teaching, the readiness with which specimens are saved during a busy routine, and the ease with which they are distributed and returned to the shelves has been conclusively demonstrated. Unless some such simple and inexpensive system is employed in hospital and departmental laboratories, valuable specimens are either lost in the haste of routine or they may be saved for a short time, only to be ruined sooner or later because of lack of care, not necessarily in the original preparation, but in the after treatment, which often consists in crowding "just one more" specimen into a jar already well filled, or to an insufficient supply of preserving fluid. On the other hand, in the far too frequent changes in staff, the specimen may be thrown away by one who considers it of little or no value, either because there is no, or insufficient, data regarding its identification, its source or other valuable cross reference; or perhaps because it is not closely related to the particular phase of the medical problem which at the moment happens to be of interest.

What has been said of departmental museums applies even more forcibly to the collections of individuals. How futile are most collections of private physicians — often rare specimens are put away in inappropriate or even without any preserving fluid and perhaps forgotten or handled again and again until they are eventually thrown away. The advantage of personal interest, however, must not be lost sight of, for it may, in some cases, result in collections which will form a valuable nucleus for, or supplement, the general medical museum.

The departmental collections serve a very useful purpose and have the advantage of convenience of ready reference, exclusive ownership, and are usually prepared and maintained at small expense. In time, however, as they become larger and more varied and may include not only gross anatomical and pathological specimens,

<sup>1</sup> On the Teaching of Pathology by the Case System, Supplemented by Gross and Microscopic Specimens. BOSTON MED. AND SURG. JOUR., June 9, 1910.

but many other means of exposition, such as lantern slides, charts, diagrams, slides for microscopic study, photographs, moving picture films and drawings, they become unwieldy and less useful because of lack of suitable storage facilities or proper catalogue. This occurs in most of the departments of a large medical school, and there is apt to be much reduplication, with consequent waste of time and money.

As in the case of books, it is necessary for the various departments, and even individuals, to have a limited number of specimens, slides and charts for assistance in teaching; but, just as certain departments find it advantageous to unite in the use of the library, so more co-operation in museum facilities is suggested; and these to include all available means and methods of illustration.

As general museums contain paintings, tapestries, textiles, ivory, metal, pottery and so forth, and libraries house books, prints, drawings, etchings and photographs, so the "library-museum" in medicine should not be restricted to storage of gross specimens, but should have various means available for medical teaching.

With the enlargement of medical schools the departments are knowing less and less about the work of their neighbors, and for the most effective co-operation, some such unifying influence is necessary not only in the different laboratories but to bring into closer relation the clinical and laboratory interests. The function of a "clearing-house," as it were, made possible by such centralization of museum facilities, should prevent, to a large extent, the expense of the unnecessary duplication such as now exists in many departments. It should also aid in preventing the *undue* repetition of topics, which occurs in the present "overlapping" of the courses given by different departments, often so confusing to the student, and wasteful of his time. Relief to some departments in cataloguing and aid in illustrating the teaching should be given by the museum. The purpose of this "library-museum" should be not merely to safely house and carefully catalogue specimens for storage and exhibition, but to take an active part in the work of the medical school as a center of distribution of material for undergraduate and graduate teaching and research.

The new medical museum must also take an active part in the general plan of education in order to keep abreast of the activities of modern museums and libraries; it should be a means through which the various departments of the medical school are brought into co-operation; it may be a seat of original investigation, and possibly serve the public more directly by lectures, exhibitions and demonstrations for different groups of individuals in association with education authorities, departments of both public health and social service. Exhibition and loan collections illustrating many different phases of preventive medicine — so successfully used in the work in tuberculosis and infant-mortality — might be much extended and prove of great value.

It has been said that real co-operation is impossible, and it may seem that such a plan in its complete form is entirely impractical, owing to selfishness or jealousy of some individuals who wish to hoard up for personal ends, or merely for the sake of collecting, while others may fear that their specimens would be misused, or lost in any general collection.

The "library-museum" may, however, come about gradually by modifying the present central and departmental collections and arranging them on a modern library basis. A special committee, in which all departments are represented, should have general oversight and work intimately with the curator on the details of organization and management. Under ideal conditions the curator or librarian should be assisted by technicians, including preparateurs, photographer, illustrators and stenographers specially trained in library methods, assistants to distribute and collect quickly and safely the specimens to be loaned or returned. Thus the services of a competent photographer, illustrator and other special technicians would become available, at a minimal cost, to all departments, however small, as are the services of the mechanics for shop work and repairs.

Accessions should be by loan, gift or purchase, subject to approval of the curator or committee in charge. A serial accession-number with cross catalogues to organ and process, the latter etiological as far as possible, and with reference to other related specimens, would prove very useful. Different classes of objects, such as gross and microscopic specimens and lantern slides, are best placed by themselves in separate series for convenience in storing; with adequate cross reference, however, they can be quickly and easily assembled. Curtains on the inside of certain cases should aid in preserving the natural colors and render the museum more suitable for public exhibitions. For such purposes also it would be advisable to have certain rooms where demonstrations could be easily assembled for exhibition and teaching with particular reference to public service.

At the outset some of the departmental collections with ample facilities should be left intact; in other cases, suggestions and assistance be offered; all collections, however, catalogued serially and by cross reference in the same manner as in the central museum, where there should be a complete catalogue of all. As the value of many specimens or illustrations of any sort is slight if undescribed, the library-museum committee should require a brief abstract of, or at least reference to, clinical or laboratory data or to special record in any way related.

It is often a question in museums in what department a certain specimen should be classified, so in considering the medical museum it is believed by some that only gross anatomical and pathological specimens should be received and that slides for microscopic study, photographs and other forms of illustration be housed and catalogued in the existing medical libraries.

This may be a very practical method provided that the present libraries could be so modified and brought into closer relation with the museum as to fill this gap by extending the functions of both library and museum to greater departmental and public service, through inviting their active co-operation. This is indeed the purpose of this so-called "library-museum."

The extension of the library system to include perhaps in time the departmental collections should necessitate numerous restrictions—to apply to certain collections and specimens; many more limitations than are now in force regarding rare prints and books, some of which are not to be removed from their places, while others may be studied at the desk, taken overnight, or for one or even two weeks. Duplicated or easily replaceable specimens may be less restricted in loaning and their exchange might help to fill gaps in the collections. The restrictions would necessarily vary, not only with the specimen, but with those making use of the library-museum. As it is seen that the privileges are not abused, they should be gradually extended; and it should be the aim of those in charge so to encourage and wisely direct this use that the varied clientele, as well as its privileges, may be extended almost indefinitely; this is the object sought in our most progressive libraries.

It is needless to elaborate in how many ways such a museum could make itself useful to all the departments of a medical school; of the numerous subjects as usually arranged in the catalogues, I think it will be generally admitted that the best-equipped medical museums, even with present limitations, by their active co-operation might be of distinct value to the teaching of a large percentage of these subjects. Regarding physiology, biological chemistry, bacteriology, materia medica (including therapeutics) and preventive medicine (including hygiene) there would doubtless be a difference of opinion. It is evident that an increased knowledge of the other related subjects in the curriculum would be of advantage to all of these and that the library and museum as extended to include certain apparatus, microscopical preparations and lantern slides, and various sorts of illustrations, conveniently catalogued, should offer additional teaching service in both material and method. It might serve also to illustrate, not only the present status of fact and method, but to show how these have been attained by preserving instructive records, in the form of models, photographs, letters, instruments and so forth, illustrative of the history and development of each branch of medicine. The *special* relation of such a museum to preventive medicine and hygiene has been previously referred to.

As an example of the advantage of well-catalogued lantern slides I would mention such a collection owned by one department of the Harvard Medical School and freely loaned to others; and emphasize its great convenience and usefulness.

Any degree of success of the "library-museum"

would depend upon its gradual development, the co-operation of departments and individuals, the efficient service rendered by the library-museum, particularly in regard to care of material, ease of reference, promptness of distribution, collection and re-distribution of specimens. A very important factor also would be the personality of the "curator-librarian," the training of his assistants in "team work," and the active co-operation with all departments.

As to finances, even at the outset, a certain definite sum of money should be allotted to the "library-museum" as well as to other departments of the medical school, because of its assistance in undergraduate and graduate teaching, and for its facilities in research. If this provision is made, the library-museum committee should be able to make a beginning, even with a limited staff. As the function of public service developed, such a "library-museum" would be dependent to a greater extent upon and should receive support in the form of bequest and endowment, as do general museums of art and science; for its varied service would be a potent means of teaching scientific truths.

### DICKENS'S DOCTORS.

BY ROBERT M. GREEN, A.B., M.D., BOSTON.

THE recent celebration this year of the centennial anniversary of Dickens's birth has occasioned a renewed general interest in his works, and has given rise to the publication of many reviews of his life, his writings and his genius. As the latest of the really great British novelists, Dickens occupies in a way a culminating position in the history of the development of that peculiarly English and modern literary form, the novel. His genius is so many-sided that to consider it as a whole is well-nigh impossible. One can only select aspects of particular interest from this or that point of view, study them individually and consider their relation to the whole.

As a portrayer of the life and society of his times Dickens is perhaps unrivaled, unless it be by Thackeray. It is for this that many readers value him most. Others are concerned with the effect which his novels had in influencing opinion, instigating reform and modifying conduct. In these respects, too, his work was undoubtedly great. From a literary standpoint, however, there is perhaps nothing so marvelous in his genius as his creation of characters.

In respect of the number of his characters Dickens is surpassed by no writer in the range of fiction. He created them with lavish and unequalled prodigality. In this respect he differs markedly from Thackeray, whose characters are relatively few. Perhaps the reason for this is that Dickens apparently drew many of his personages directly from life, and perhaps this, too, is the reason why they are so lifelike. Few of them are elaborately wrought. The majority are swift but unerring sketches. Some reappear often. Many crowd through his teeming pages, occupy the stage



for but a moment, then are seen no more though never forgotten.

Dickens understood and sympathized with all sorts and conditions of men. Men of all kinds and walks of life appear in his writings, and mostly they are the real people of to-day. To discuss all or any large part of them would be only confusing. One can best select a group and consider its relation to his work as a whole. Dickens has perhaps rather less to say about doctors than about members of any of the other professions, yet in his novels no less than twenty-six occur as characters, besides several others that are not mentioned by name. Without undertaking to describe more than a few of these, it is interesting to recall some of them and examine the truth and manner of their portraiture.

Of all Dickens's medical characters none are more generally familiar than Bob Sawyer and Ben Allen. These two nonchalant gentlemen are introduced fairly late in "*Pickwick Papers*," but occupy its pages for a considerable time. They horrify Mr. Pickwick by the *sangfroid* of their references to medical topics; and in their allusions to the dissecting room and in the freedom of their conduct in the party at their lodgings illustrate a fundamental characteristic of all medical students in the earlier days of their studies, when the breaking down of many of the usual conventions has led them into a certain brutal frankness of manner, thought and speech not yet mitigated by a recurring realization of the validity of the gentler customs and higher ideals of life. At the party above mentioned we are briefly introduced, too, to Jack Hopkins, another medical student, of breezy personality, to whom we are indebted for several clinical anecdotes, including the marvelous one of the necklace of wooden beads as a foreign body in the stomach. Five other medical students are introduced into the same chapter, described chiefly by their costume, yet real personages for all that. The company, though perhaps a bit caricatured, as many of Dickens's characters tend to be, are none the less true to life.

One other medical student, Alfred Heathfield, plays a considerable part in "*The Battle of Life*"; and one in "*Bleak House*," Richard Carstone, illustrates too well the perplexities of a young man with no special tastes or aptitudes endeavoring to decide on a profession, and the importance of being in earnest if that profession is to be medicine. Neither of these, however, has the individuality of Bob Sawyer and Ben Allen, who remain the prototypes of all medical students in literature.

Two other medical characters appear in "*Pickwick Papers*," two surgeons, Dr. Slammer, "a little fat man with a ring of upright black hair round his head and an extensive bald plain on the top of it," — the bellicose surgeon of the Ninety-Seventh with whom Mr. Winkle became so unfortunately involved as a result of the ball at the Victoria and Bull in Rochester; and Dr. Payne of the Forty-Third, the disappointed referee at the duel. Though these two men are but minor characters hastily sketched, and appear in only two

chapters, they are thoroughly real and probably true representatives of men of their type and time.

In Alexander Manette, of the "*Tale of Two Cities*," we have a person of entirely different kind, a delicate, pathetic figure, finely conceived, tenderly and exquisitely drawn. Though he is a physician, and in the last chapter is described as still, what every physician should be, "faithful to all men in his healing office," it is hardly as a doctor that we think of him. He is rather a man whose passage through a great tragedy has transported him beyond the limits even of his profession. He is not a man of any profession, time or race; he is "the man who was."

In "*Bleak House*," besides Richard Carstone's preceptor, Mr. Boyham Badger, — the "pink, fresh-faced, crisp-looking gentleman, with a weak voice, white teeth, light hair and surprised eyes," and tireless admiration for his wife's two previous husbands, — there is Allan Woodcourt, the hero of the narrative, who is introduced to us at Nemo's death-bed merely as "the dark young surgeon," but whose character grows in breadth and manliness throughout the tale. In the same chapter is introduced, too, another of Dickens's nameless personages, "a testy medical man, brought from his dinner, — with a broad, snuffy upper lip, and a broad Scotch tongue." The coroner's inquest in this chapter is a marvel of vividness in depicting the medico-legal procedure of the time. Whether Dickens's descriptions are brief or long, they are equally masterly and show how clearly, intensely and accurately he visualized both his scenes and his characters.

In "*David Copperfield*" and "*Dombey and Son*" we are made acquainted with types of the family physician. Little Mr. Chillip not only received David on his advent into this world but attends him through the measles, consoles him after his mother's death, befriends him under the tyranny of the Murdstones, soothes the dying days of his faithful friend Barkis, and delights him on his return to London with intelligence of past events. Mr. Chillip was "the meekest of his sex, the mildest of little men," but he was a good doctor, we feel sure, and as such deserves respectful memory. There has been no better statement than his of the axiom of a physician's conduct, that "a medical man, being so much in families, ought to have neither eyes nor ears for anything but his profession."

Mr. Pilkins, the family practitioner of "*Dombey and Son*," was a man of rather different stamp. Again it is he who receives Paul Dombey into this vale of tears, with the aid of the pompous Dr. Parker Peps as consultant, "one of the great court physicians, and a man of immense reputation for assisting at the increase of great families." Despite their care, however, and the assistance of Mrs. Blockitt, the nurse, "a simpering piece of faded gentility," they succeed in losing Mrs. Dombey of post-partum hemorrhage. Notwithstanding this misadventure, however, which really made little difference to any one except Paul and Florence, Mr. Pilkins continues to attend Paul during his delicate childhood; and Dr. Peps, now

become Sir Parker, watches over Paul's death. One cannot help liking Mr. Pilkins and Sir Parker, despite their professional failings, and one feels sure they must have been good men at heart. Though each appears but in two chapters, they are as vividly drawn as any character in Dickens. Paul's old nurse comes back to him, too, in that last illness. She is another of the nameless personages. She cannot have been the same as Mrs. Blockitt, one is certain. Except for her, Dickens's nurses are not a compliment to the profession. Sairey Gamp and Betsey Prig in "Martin Chuzzlewit" have become types, like Bob Sawyer and Ben Allen, but happily they are not prototypes. They are pillorizations of a type that since the days of Florence Nightingale has passed away forever.

In "Martin Chuzzlewit" there are three doctors: Mr. Lewsome, the surgeon who gives to Mrs. Gamp orders for the care of her typhoid case that are never carried out; Dr. John Jobling, the medical officer "who had followed poor old Anthony Chuzzlewit to the grave, and who had attended Mrs. Gamp's patient at the Bull"; and Dr. Ginery Dunkle, the oratorical American doctor who is no physician at all. Of these, the best description is perhaps that of Dr. Jobling.

"He had a portentously sagacious chin, and a pompous voice, with a rich huskiness in some of its tones that went directly to the heart, like a ray of light shining through the ruddy medium of choice old Burgundy. His neckerchief and shirt-frill were ever of the whitest, his clothes of the blackest and sleekest, his gold watch-chain of the heaviest, and his seals of the largest. His boots, which were always of the brightest, creaked as he walked. Perhaps he could shake his head, rub his hands or warm himself before a fire better than any man alive; and he had a peculiar way of smacking his lips and saying 'Ah!' at intervals while patients detailed their symptoms, which inspired great confidence."

But the medical scenes of "Martin Chuzzlewit" are not of the most creditable, and one is glad to pass them briefly over.

In "Little Dorrit" is another obstetrician, of much less attractive nature than Mr. Chillip, or Mr. Pilkins or Sir Parker Peps, — Dr. Haggage, the Marshalsea prison doctor, "amazingly shabby, in a torn and darned rough-weather sea-jacket, out at elbows, and eminently short of buttons (he had been in his time the experienced surgeon carried by a passenger ship), the dirtiest white trousers conceivable by mortal man, carpet slippers and no visible linen, . . . a ghastly medical scarecrow." One shudders to think of his septic midwifery, yet he ushered Amy, Little Dorrit, into the world without disaster to her or her mother. Mrs. Bangham, the nurse at this episode, seems to have had a bit more humanity than the odious Sairey, yet she and Haggage are both well forgotten.

Mr. Losberne, in "Oliver Twist," is a pleasant antithesis of Jobling and Haggage, and his goodness and humanity only stand out in stronger contrast with the crime and cruelty of Oliver's

surroundings. Of Dickens's other doctors, — of Dr. Lumbey in "Nicholas Nickleby," of Joe Specks in the "Uncommercial Traveller," of Dr. Wasky and Mr. Dawson in "Sketches by Boz," and of Drs. Toorell, Grummidge, Kutankumagen, Soemup and Mr. Knight Bell, that strange aggregation in the "Mudfog Association," — there is neither space or need to speak. One prefers to take leave of them with the pleasant picture of Mr. Losberne in his retirement, where "he took to gardening, planting, fishing, and carpentering." What better end could each of us desire for himself?

Of Dickens's doctors, as of his other characters, it may, perhaps, truly be said in criticism that they do not exist apart from their environment. Yet they carry their environment with them, and one can recreate them at will from the author's pages. Dickens, it must be remembered, was a novelist, and the function of a novel is to present life in cross-section, as it is that of the drama to create eternally valid human types independent of their environment. If Dickens's doctors are characters of only two dimensions, yet their portrayal is of the most human. They are not all a credit to the profession, but neither are all its members to-day. If they do not move and act in three dimensions, like the physician in "Macbeth," that is the fault of the novel as a literary form. But as life-sketches of real men they are living likenesses. Dickens has created more doctors than any other great writer of fiction, and it is pleasant to think that he included our profession in the wealth and profusion of his genius.

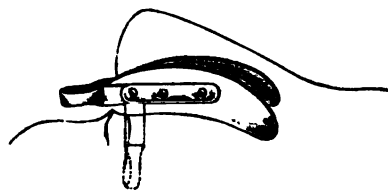
### New Instrument.

#### TWO NEW INSTRUMENTS FOR NOSE AND THROAT.

BY LOUIS M. FREEDMAN, M.D.,

Surgeon to the Nose, Throat and Ear Department of the Mt. Sinai Hospital, Boston, Mass.

THE first is a splint to be used in place of the very disagreeable packing after the submucous resection of the nasal septum. This splint is composed of two properly shaped pieces of ivory connected by a loosely fitting spring of non-corrosive metal. The loop of the spring is united to the



ivory pieces by a swivel joint in order to facilitate the introduction of the splint into the nose. The spring is made so light that merely contact of the two mucous membrane layers is attained, without anything but the lightest pressure. Experiment with many models has shown that this is the most desirable condition.

The splint is introduced in this manner. With the swivel loop turned down as in the figure, one ivory piece is introduced into each nostril, and gently pushed into the nose until the central part of each ivory piece is over the center of the operated septum and each ivory piece lies entirely within the nose. The loop is then raised and fits closely around the column of the septum externally. If closer contact is desired, a slight pressure on each side of the loop will make the spring tighter. In the average case this splint will be found easily adaptable with very little change.

In a series of fifteen cases, this splint has clearly demonstrated its value, and why it is to be preferred over packing the nostrils after the submucous resection of the septum. The advantages found have been:

First, The absence of nasal congestion and consequent bad headache.

Second, The absence of bleeding after removal of the splint on the following morning.

Third, It has shortened the time of healing because the mucous membrane is practically in normal condition.



The second instrument is a tonsil knife designed for use when doing tonsillectomies according to the very useful method of Dr. O. A. Lothrop. This knife makes the initial incision through the anterior pillar of the tonsil, and also has an elevator at its opposite extremity and is curved so as to lie closely against the tonsil between it and the anterior pillar, and facilitates lifting the superior part of the tonsil from the tonsillar sinus. It is one instrument which serves at the same time as scalpel, separator and elevator.

Both of these instruments are made by Codman & Shurtleff, of Boston.

### Clinical Department.

#### A REPORT OF TWO CASES REINFECTED WITH SYPHILIS FOLLOWING TREATMENT BY SALVARSAN.

BY JOHN H. CUNNINGHAM, JR.,  
Visiting Surgeon, Long Island Hospital; Assistant Visiting Surgeon,  
Boston City Hospital.

SINCE the introduction of salvarsan (September, 1909) as a therapeutic measure in the treatment of human syphilis, many thousand patients have received the drug.

In the opinion of those competent to appreciate the character of the various forms of this disease, and who have the facilities for carrying on this new treatment in a scientific manner, it is generally admitted that this new drug has a pronounced immediate effect upon the lesions, that a negative sero-reaction is not always produced by a single dose, that a negative sero-reaction may again become positive, and that lesions do sometimes recur. In many instances, however, a single dose of the drug is followed by a disappearance of the symptoms and lesions and a negative sero-reaction results. The point of interest in this

latter group of cases is whether or not they are entirely freed of the disease. There have appeared in the medical literature a few instances in which patients in this group have again received a primary lesion which has been followed by a typical secondary irruption at the usual period and a strongly positive sero-reaction; in other words, these patients have all the evidence of again contracting the disease. Such instances are as yet few and for this reason the following two cases are recorded.

**CASE 1.** A young lady twenty years old. Primary lesion on lower lip appeared about Oct. 1, 1911, followed by a profuse macular and papular irruption all over body in the sixth week following the primary lesion. Sero-reaction (Wassermann and Noguchi) Nov. 20, strongly positive. On Nov. 22, 1911, .09 gm. salvarsan administered intravenously. At this time induration was present at the site of the primary lesion on lip. Salalite bubo present under left jaw, irruption profuse and a few mucous patches present in mouth. In ten days all symptoms and lesions of disease were absent. Sero-reaction (Wassermann and Noguchi) Jan. 25, 1912, negative. At this time there was no evidence of the disease. On March 26, 1912, patient appeared with a characteristic general macular irruption similar to the usual secondary irruption of macular type. This irruption had been present a few days. It was then learned that she had had a genital sore for the past several weeks. Examination revealed a small ulcerated, slightly indurated sore on the left labia minora. The sero-reaction (Wassermann and Noguchi) March 28, 1912, both strongly positive. On April 6, 1912, a dose of .09 gm. salvarsan given intravenously. Nine days later the irruption and primary lesion had disappeared.

On May 21, the Wassermann and Noguchi tests were still positive.

**CASE 2.** A man twenty-eight years old. Typical syphilitic chancre appeared on penis Feb. 16, 1911. A typical general macular irruption appeared in the sixth week following the appearance of the primary lesion. On April 12, 1911, sero-reaction (Wassermann and Noguchi) strongly positive. On April 21, 1911, .06 gm. salvarsan given intravenously. At this time the patient showed a general macular irruption, the right tonsil considerably swollen, left less so, tonsils and pharynx reddened, not ulcerated. A small suppurating bubo present in both groins from secondary infection of chancre. The general condition was only fair. Two weeks following the administration of salvarsan the patient was free from symptoms and lesions. On June 2, 1911, sero-reaction (Wassermann and Noguchi) both negative. On Nov. 9, 1911, the patient again appeared with a typical chancre on the foreskin and a general profuse macular irruption, most pronounced on the posterior and inner surfaces of the legs and arms. There was one mucous patch on the lower lip. Sero-reaction (Wassermann and Noguchi) both positive, Nov. 11, 1911. The general condition was better than at the time of the previous administration of salvarsan. On Nov. 15, 1911, .06 gm. salvarsan given intravenously. Fifteen days later all lesions had disappeared. On Dec. 30, 1911, sero-reactions were still positive.

The above cited cases have received no mercury at any time. It is the writer's belief from the cycle of events that both these patients were cured of the first infection by a single dose of salvarsan.

## Medical Progress.

### REPORT ON DERMATOLOGY.

BY JOHN T. BOWEN, M.D., BOSTON.

TREATMENT OF INFANTILE ECZEMA. — TREATMENT OF ICHTHYOSIS WITH EUCERIN. — THE TREATMENT OF LUPUS VULGARIS. — INFLUENCE OF SALVARSAN ON THE LEPROSY BACILLI. — SALVARSAN IN FRAMBESIA, LEPROSY AND GRANULOMA TROPICUM. — THE TREATMENT OF ACNE BY VACCINES. — PSORIASIS TREATED BY BATHS TO WHICH MEDICATED EMULSIONS ARE ADDED. — SKIN DISEASES IN HAWAII (THE SUN A MODIFYING FACTOR).

#### TREATMENT OF INFANTILE ECZEMA.

PICK<sup>1</sup> asserts that in treating the eczemas of children we must constantly keep in mind a feature that distinguishes these forms from those occurring in adults, namely, their intimate connection with disturbances of metabolism. He points out that purely local treatment is in most cases successful in the case of adults, very seldom in the case of infants.

It is rather apt to be a well-nourished, healthy appearing infant that is the subject of the common type of infantile eczema, that begins usually on the cheeks or scalp, and often sparing the parts about the nose and mouth, extends to the whole head and face and often persists for several years. When this form of eczema spreads to the body, it usually assumes the form of a papular eczema at first, later, perhaps, becoming moist. This form of eczema is especially common in breast-fed infants and in those that are well-nourished, as has been said. Pick believes that whether well-nourished and apparently robust or not, these infants are subject to gastro-intestinal disturbances which are caused by improper nourishment.

In the first place, regulation of the feeding intervals is most important, the rule being intervals of three hours, with not more than five feedings during the day, none at night. The quality of the milk must be looked into. The milk of women who have had many children is very rich in fat, and this should be counteracted by diminishing the number of feedings, etc. The relation of the eczema to disturbances of the intestinal tract is seen in the frequency of its appearance at the time of weaning. Hence the ingestion of solid articles of food should be approached very cautiously. These purely dietetic measures are pursued in all cases of infantile eczema even if no gastro-intestinal disturbances are evident. In case such disturbances manifest themselves, an intestinal disinfectant is to be given, and cod-liver oil is especially recommended, indeed, it is of value in almost all cases of eczema. Finkelstein's diet is not to be recommended.

Pick asserts that there is but one form of eczema that may usually be cured by local measures alone, and that is the intertriginous form. A  $\frac{1}{2}$ % chrysarobin ointment is recommended for this purpose [certainly to be used with great caution. Rep.]. In crusted eczema of the face and scalp, after removal of the crusts by diachylon ointment diluted with cod-liver oil, either this latter applica-

tion is persisted in, as in the case of a moist oozing eczema, or tar is applied once a day with absorbent cotton, followed by the ointment. In cases where the cod-liver-oil-diachylon ointment is not borne, a simple dusting powder of oxide of zinc, talcum and starch is used as a preliminary treatment.

Attention is to be directed to the water of the bath; if very hard, the water should be boiled and bran added. Soap should be used sparingly and when any is necessary an overfatted lanolin soap is preferred. A 1% white precipitate ointment is recommended for application to the folds of the skin after bathing, which is then wiped off with moist linen cloths and the part powdered with an indifferent powder. The use of impermeable dressings in these infantile cases is strongly condemned. In the prophylaxis of these cases, all the rules of hygiene of the skin play a most important part. The number of external remedies has been greatly increased by the introduction of different ointments, pastes, lotions, substitutes for tar, etc., yet Pick regards these innovations as unnecessarily complicating the treatment, as they may do more harm than good if not judiciously used, and are never more effective than those recommended.

#### TREATMENT OF ICHTHYOSIS WITH EUCERIN.

Eucerin, a new ointment base, obtained from wool fat, is recommended by Unna<sup>2</sup> for the treatment of ichthyosis. Ichthyosis is usually regarded as an incurable affection and its treatment as simply palliative. It is, however, the old Vienna school that is chiefly responsible for the strict maintenance of this view, by considering that the three indications, namely, softening, desquamation and oiling, are fulfilled by the use of baths, soaps and ointments. Later investigations have shown that certain medicaments may effect more than a palliative action on the skin and may delay recurrences and at times produce a complete cure. There seems to be no valid reason why ichthyosis may not be healed, at least in mild cases, as even Hebra had observed such a result after measles and scarlet fever, and as a spontaneous improvement at the time of puberty occurs in many cases. The so-called reducing agents, such as sulphur, resorcin, salicylic acid and naphthol, have been shown to be of value. Glycerine was first recommended by Lailier and has become the classical method of treatment in France, used either in the form of an ointment or as a 10% glycerine and water application after a daily bath with soap. The disadvantages of this latter method, which has otherwise much to recommend it, are an unpleasant feeling of stickiness and refrigeration.

Eucerin was tried in the form of a eucerin cold cream after baths with the addition of salicylic soap, and produced a gratifying result. Later attempts confirmed this good opinion. It has the advantage over glycerine of producing a sensation of dryness and suppleness.

Eucerin may also be combined with glycerine

<sup>1</sup> Wien. Med. Wochenschr., Sept. 25, 1909.

<sup>2</sup> Monatsh. für prakt. Dermat., Band 48, no. 6.

and with the reducing agents that have been mentioned, but Unna recommends a trial of pure eucerin or of eucerin cold cream. Eucerin possesses a definite independent action upon the outer skin, as compared with the ordinary emollient ointment bases.

#### THE TREATMENT OF LUPUS VULGARIS.

Doutrelepon<sup>3</sup>, who has contributed materially to the improvement of our understanding of the different forms of cutaneous tuberculosis, reviews his experience of fifty years in the treatment of lupus. He passes over the older methods of cauterization, curetting, scarification, etc., as seldom producing lasting results, apart from the danger of favoring the spread of the tubercle bacilli by opening the blood and lymph channels. Excision is naturally the most radical procedure, but the cosmetic results, especially after Thiersch transplantation, have not, in his experience, been equal to those obtained by later methods. Koch's tuberculin he regards as the first great advance in lupus treatment. He has stuck to this treatment through thick and thin, in all suitable cases, and has encountered no bad results from its use. Recurrences are experienced, but they are not so numerous as previously.

A second great advance in lupus treatment is that by the Röntgen rays, although here, too, a radical cure is not attained by this method alone. A third advance is represented by the Finsen light, which method has the great advantage of giving the best cosmetic results. These three methods, tuberculin, Röntgen rays and the Finsen light, are all exceptionally long and tedious and are, therefore, of difficult application to the poor and working classes. The treatment must often be broken off when the promises of good results are most auspicious, and oftentimes patients declare themselves satisfied with an improvement that can be only temporary.

An important element in the treatment of lupus is improvement in the nutrition. Lupus subjects as a rule, belong to the poorer classes. Doutrelepon has frequently observed that simple cleanliness and better nourishment often effect a great improvement without other treatment.

The three methods of treatment spoken of, tuberculin, x-rays and Finsen light, all seem, from histological examinations, to have the same effect on the tuberculous tissue, namely, a violent inflammation of the whole skin, with serous and fibrinous exudation from the dilated vessels, with leucocytes. There is a vacuolization of the cells, and a new formation of connective tissue constituting the scar.

On account of the above-named objections to these methods, Doutrelepon combines them with other methods. Applications of corrosive sublimate were recommended by him in 1884, and he has used them continuously since, and they always accomplish a certain amount of good. If eczema arises, salicylic acid is substituted. He considers pyrogallie acid the best of the chemical applica-

tions. It is used in the form of a 10% ointment applied for three to four days continuously, after which sublimate applications are made until the necrotic mass has been removed. When the lupus is not ulcerated, the tissue is previously painted with caustic potash in order to lay open the epidermis and facilitate the penetration of the caustic.

The method pursued at the present day is, therefore, a combination of old and new procedures. Every lupus patient when taken into the clinic is treated with applications of corrosive sublimate. When the diagnosis is not perfectly clear, injections with old tuberculin are employed. ( $\frac{1}{2}$  mgm.). If the diagnosis is positive T R is used from the beginning, at first  $\frac{1}{10}$  mgm., gradually increasing every two days  $\frac{1}{5}$  mgm., watching the temperature. As a rule 2 mgm. is not exceeded. During the injections, other methods are pursued according to the case. For hypertrophic tissue and granulations the sharp spoon is used, followed by the Paquelin in order to close the lymph and blood channels, and avoid dissemination of the tubercle bacilli. Pyrogallie acid is then employed, and then the sublimate applications again resorted to. If the lupus is not of a hypertrophic type the applications of pyrogallie acid are at once resorted to without operative interference.

Immediately after the operation, or during the application of the pyrogallie acid the Röntgen-ray treatment is resorted to, with the endeavor to avoid visible reactions as far as possible. The more intense Röntgen applications have been given up on account of the disfiguring telangiectases that occur in the scars. When these do occur in spite of precautions, they are destroyed by applications of carbon dioxide snow.

When the parts have been completely converted into scar tissue, the Finsen method is begun in order to get rid of the last remnants of lupus tissue. If the lupus is not very extensive, this method is resorted to from the start. Finally, old tuberculin is employed to test the question of complete removal of all tuberculous tissue.

Doutrelepon considers that there is a great advance in the methods of treating lupus to-day compared with those of fifty and even twenty years ago. He truly concludes that lupus is *in the beginning* easily and quickly cured, and that if this can be sufficiently made known through societies for the prevention of tuberculosis and other means, the net results of lupus treatment will be far better.

#### INFLUENCE OF SALVARSAN ON THE LEPROSY BACILLI.

Montesanto<sup>4</sup> notes the following results of his investigation of this question: (1) Small doses as well as subcutaneous injections of the drugs have almost no influence on the Hansen bacilli. Somewhat larger doses produce as their first effect the so-called Herxheimer reaction, which represents a certain action of the remedy on the bacilli. Large doses, and intravenous injections, exert a positive destructive action on the leprosy bacilli, although not sufficient to wholly stem the invasion.

<sup>3</sup> Archiv für Dermat. u. Syph., 100, 1910.

<sup>4</sup> München. med. Wochenschr., March 7, 1911.

(2) Salvarsan causes a filling in and healing of the ulcerated skin lesions of leprosy. This action of arsenic is recorded in the now old works of Kubler, Hebra and Kaposi, and is to be ascribed to the necrosis-producing action of arsenic on the pathological infiltration of the skin. It is well known that the external application of arsenic has the same effect on the cutaneous ulcers.

(3) Salvarsan has no effect on the developing leprous infiltrations.

Two indications for the therapeutic use of salvarsan in leprosy present themselves. First, in the primary stages, when it is assumed that the number of bacilli is small, and secondly, in cases when the tissue has broken down and produced large ulcers. Further trial will decide whether the successive employment of intravenous injections with the object of destroying the bacilli as they are produced, will lead to more successful results.

#### SALVARSAN IN FRAMBESIA, LEPROSY, AND GRANULOMA TROPICUM.

The experiments of Rost<sup>5</sup> were conducted chiefly in Trinidad, and the injections of salvarsan were made intramuscularly. No unpleasant results were experienced, although children three and four years of age were treated, and the pain from the injections was not considerable. In the case of yaws (frambesia), an affection that heals spontaneously after a course of a few years, care was taken to select both recent and older cases. The result of the treatment was immediate. Within twenty-four hours after the injection, changes could be noted in the skin lesions in the form of a fine white ring about the individual lesions, which began to dry up within a few days. In five or six days the crusts dropped off, leaving a smooth pigmented surface without scars. The lesions in the nose and nostrils were not, however, affected by the treatment. The lymph glands, which are prominently enlarged in this affection, were immediately reduced by the treatment. These results in the West Indies accord with those of Castellani's in the East Indies, although the number of cases treated is as yet too small to estimate the percentage of possible cures and their permanency. Thus far about 33% of the cases proved refractory.

The injection of salvarsan in the case of nine lepers was not productive of immediate results. No local reactions were observed.

Granuloma tropicum is considered by many to be caused by a spirochete, although a purely local affection. A patient who exhibited a large exuberant tumor in the region of the perineum and about the anus after being treated previously by mercury and the iodide of potash without result, was injected with salvarsan. No change could be detected in the tumor two months later.

#### THE TREATMENT OF ACNE BY VACCINES.

Sir Malcolm Morris and Ernest Dore<sup>6</sup> are among those who have failed to be convinced of the great advantages of this method of treating acne. There

has been a great difference of opinion as to the acne bacillus, not only with regard to its cultural and morphological properties, but as to the exact rôle that it plays in the etiology. For this reason they truly say that the employment of vaccines in this affection must be looked on as in great measure empirical. The acne bacillus was discovered by Unna in 1893, and the bacilli later described by Sabouraud, Gilchrist, Halle and Civette and some others are regarded by the writers as probably the same organisms, although there are many apparent discrepancies. The suppurative of the comedo is believed by some to be due to the bacillus of acne, to others as due to staphylococci, the bacillus producing only the comedo. The writers think that the evidence that the bacillus produces pus is very strong, and that in cases where the staphylococcus predominates, the "effects of the bacillus are overshadowed by those of the more active staphylococcus."

After passing in review the therapeutic findings of other observers, many of whom claim very great value for this method, the writers state their own conclusions. They cannot agree with those who have considered acne bacillus vaccine as one of the most brilliant therapeutic agents in dermatology. Their extensive experience with this method has led them to form a very moderate view of its efficacy. They do not at all recommend it as a routine treatment in this affection, but consider that it should be reserved for carefully selected cases.

Three classes of cases are cited that may be considered sometimes suitable for this method of treatment. First, cases where there are severe, deep-seated pustules, which cover a considerable area, in which there are numerous micro-organisms present, the staphylococcus in very large amount, the acne bacillus but sparingly. In these cases a staphylococcus vaccine is indicated, but it must be used over a period of months and is not a substitute for either local or the ordinary constitutional treatment.

The second group is that in which the lesions are indolent and superficial, consisting chiefly of inflamed comedones that do not usually become pustular. In these cases they have found the acne bacillus vaccine effective, but only in a "reasonably large proportion" of the cases.

The third group is made up of those cases that combine the two previous groups, and here mixed vaccines of acne bacillus and staphylococcus are to be used. In the two latter groups, as in the first, all the ordinary rules for the management of acne, such as attention to circulatory and digestive disturbances, the diet, constipation and plugging of the ducts, must be carefully followed. Local measures of stimulation and disinfection should be observed.

The writers think that autogenous are, on the whole, superior to stock vaccines, although in the cases where the acne bacillus vaccine is indicated, as in the second class of cases, it is better to use a reliable stock vaccine on account of the difficulty of cultivating this bacillus. Their best results in this group were obtained by a stock vaccine in

<sup>5</sup> München. med. Wochenschr., May 23, 1911.

<sup>6</sup> Brit. Jour. Dermat., October, 1911.



doses of from 5 to 10 millions, every week or ten days. The opsonic index may be disregarded.

In conclusion, they state that their experience indicates that vaccine treatment should be regarded only as a useful adjuvant of the usual methods. There are occasional brilliant results, but there is a great tendency to relapse, the treatment must, as a rule, be carried out for a long time, be combined with other methods, and it cannot be shown to produce immunity.

#### PSORIASIS TREATED BY BATHS TO WHICH MEDICATED EMULSIONS ARE ADDED.

One of the methods employed by Hebra and his school for treating psoriasis was that of first sinearing the patient with tar, and then giving a prolonged bath. Balzer,<sup>7</sup> in 1900, recommended baths to which a tar emulsion was added, at first in the form of oil of cade, *sapo viridis* and water, and later according to the following formula: oil of cade 50 gr., yolk of one egg, fluid extract of quillaya 10 gm., water 250 gm. It was recommended at first to begin with small doses, 50 gm. of oil of cade to a bath, increasing the amount later to 100 or 120 gm. of the emulsion. A bath is taken every day, first of a half hour's duration, later an hour's. A great advantage of this treatment is that it is not irritating, but it has the disadvantage of being expensive, if the number of baths must be considered.

Later the plan of adding chrysophanic or pyrogallie acid to these baths was formed. At the outset simple baths followed by the application of vaseline are given. When chrysarobin is added to the emulsionized tar bath, a medium dosage is 3, 4 or 5 gm. of chrysophanic acid to the bath, beginning, however, with only 1 or 2 gm. Examination of the urine has never revealed the presence of chrysophanic acid. A medium dosage of pyrogallie acid is from 1 to 2 gm., at first, later perhaps increased to 5 or 8 gm.

In all cases a consistent improvement was noted from the first, this improvement consisting, first, in a rapid desquamation of the affected areas, and then in a diminution of the pruritus, which was quite intense in some instances, and in a softening of the skin. In most of the cases the patient left the hospital at the end of a month or six weeks, after twenty or thirty baths, some of them with the skin of normal appearance, others having improved sufficiently to return to their occupations. These baths are taken for an hour each day, and five or six times a week. The urine is examined daily. No discoloration of the urine, however, has ever been observed. No ill effects have been produced, such as a condition of exfoliative dermatitis or an increase of the psoriasis. A slight erythema was sometimes caused by the chrysophanic acid, but it was not found necessary to discontinue the baths on this account. The temperature of the baths should be constantly supervised, as an increase adds much to the activity of the treatment. The method is regarded as on the whole an energetic one, the effects of which should be carefully

watched. The baths evidently add to the reducing and resolvent action of oil of cade and chrysarobin.

#### SKIN DISEASES IN HAWAII (THE SUN A MODIFYING FACTOR).

Alderson,<sup>8</sup> of San Francisco, gives a brief résumé of his observations of skin diseases during two visits to Honolulu, when many patients in hospitals and institutions and in the private practice of friends were observed. He also had many letters confirming his conclusions from physicians practicing in the islands. The mild, even climate of Honolulu is favorable to all kinds of life. The increased temperature with moisture make the affections caused by the growth of micro-organisms in the epithelial tissues exceedingly common. Impetigo contagiosa and allied affections are very numerous. Ordinary cuts are often infected, especially in the case of those who do not bathe, and scabies and tinea are very common. The statistics show 764 lepers in Hawaiian territory. There were many cases of pompholyx, heat and moisture being no doubt necessary for its development. An interesting point brought out is that senile keratoses, precancerous conditions and basal-celled epithelioma are rare, and this fact he considers to be due to the inhibiting effects of the actinic rays of the sun. Possibly the absence of irritating factors, as winds, cold and dust, may also play a part. Cutaneous tuberculosis is rare, which is also to be attributed to the favorable action of the sun's rays. In California it is asserted that this affection is rare as compared with its prevalence on the Atlantic coast. Another interesting fact brought out was that, owing presumably to the moisture and hyperemia of the skin caused by the climate, a dermatitis from the use of the Röntgen rays is very easily produced, as was shown in a number of cases of severe x-ray burns, where the exposure was not long continued.

### Reports of Societies.

#### THE BOSTON SOCIETY OF MEDICAL SCIENCES.

At a meeting of the Boston Society of Medical Sciences, on May 21, 1912, Dr. A. B. EMMONS, 2d, presented a paper of which the following is an abstract:

A STUDY OF THE VARIATIONS OF "NORMAL" IN WOMAN'S PELVIS, BASED ON OBSERVATIONS MADE ON TWO HUNDRED AND SEVENTEEN SPECIMENS OF THE AMERICAN INDIAN SQUAW.

Predicting the result of labor in a case is the object of what has been called "*Preventive obstetrics*." Fundamental among many factors is the thorough knowledge of the pelvis. The size of the child's head and the strength of the patient are secondary.

To know the pelvis, one should know the limits of the "normal"; then we may distinguish the pathological.

The "normal" pelvis is a graded variable between extremes rather than an average.

No large series of normal pelvises is to be found in

<sup>7</sup> Bull. de la Soc. franc. de Dermat. et de Syph., December, 1911; February, 1912.

<sup>8</sup> Calif. State Jour. Med., August, 1910.

the literature. Usually an average or non-pathological measurement is given.

The bones of the American Indian of the early times are free from *rachitis*, while tuberculosis, osteomalacia and syphilis are rare.

Thus we find in North and South America and the adjacent islands many tribes who live under varied conditions and habits, but who constitute an unmixed race free from bone diseases yielding a *pure type*.

The question naturally arises, Is the *normal* for the Indian the same as the *normal* for the white? The answer cannot be made definite with our present knowledge. But the following facts suggest that they may be very similar.

An *Egyptian pelvis*, identified as four thousand years old, is identical with the normal average of to-day. Studies in *comparative anthropology* show that, aside from special causes as marked alterations in habits and nutrition, changes in form of the human skeleton take place much more slowly than this short period of four thousand years.

In any series of pelvises at least two hundred specimens should be taken in order to get a *due proportion* of variations.

*Accuracy* is difficult in such observations. *Disarticulated pelvises* are best. Only specimens which could be correctly approximated were used. An apparatus for holding the separate bones was devised and used satisfactorily.

*Measurements.*—The aim in selecting measurements was to give an *accurate measure* of the *pelvic cavity*. Therefore the *inlet*, the *outlet*, and, for anthropological comparison, the *separate bones* were measured.

The *inlet* is the most important index of pelvic efficiency. Owing to the frequent absence of the lumbar vertebrae, *Baudeloque's external conjugate* was not measured. Obstetricians, to-day, however, consider this conjugate unsatisfactory as a measure of the inlet. The internal or diagonal conjugate, measured directly, is used as a basis for estimating the the obstetric conjugate or "*vera*."

The *transverse diameter* of the inlet cannot be measured satisfactorily in life. Estimates made from the *inter crests* and *inter spines* diameters are inaccurate and merely suggestive of the variety of pelvis.

*Litzmann's definition* of a "*contracted pelvis*" is generally accepted throughout the world. This is a *conjugata vera* of 10 cm. or less in a generally contracted pelvis, or 9.5 cm. in a *flat pelvis*. Judged by this arbitrary standard my specimens showed 63 or 29% contracted, as follows: Generally contracted, 9–10 cm., 6; generally contracted, 8–8.9 cm., 1; flat, 9–9.5 cm., 43; flat, 8–8.9 cm., 11; flat, 7.5–7.9 cm., 2.

If we try the *intercrests* and *interspines* measure, as is pretty generally done clinically at present we find but three of the seven generally contracted pelvises show reduction within normal limits, while four show not even that suggestion of contraction. These seven generally contracted pelvises, according to William's table of clinical experience, ran 6–8 chances in 10 of spontaneous delivery, and, according to the table of Ludwig and Savor, they ran from 2.5 to 7.5 chances in 10.

The flat pelvises, judged by William's standard, show the chances of spontaneous delivery to be as follows: Two pelvises, 1.5 to 2.5 in 10; eleven pelvises, 5 in 10; forty-three pelvises, 7.5 in 10.

*Outlet contractions* produce what are called "*funnel pelvises*." Several European writers and Williams in this country have emphasized this contraction. In 1,200 clinical cases Williams found 10.2%, and according to his standard my series of 217 pelvises, 9.2% showed moderate contraction at the outlet.

This type of contraction probably accounts for severe tears of the perineum, the necessity for low forceps and occasionally for obstruction.

*Measurements* of the outlet consist in two of importance, the *intertubers* and the *post-sagittal* correlated.

The *subpubic arch*, as is commonly used may be suggestive, but is not to be relied upon. My series showed 29 narrow or "*male*" arches with full sized outlets.

To get a more accurate measure a transparent *celluloid measure* was devised, marked with concentric circles  $\frac{1}{2}$  cm. apart. This represented the "*fetal head*," and was applied to each outlet. The circle tangent to the three resisting points was taken as the measure of the outlet.

Forty-four sacra consisted of *six segments* entering into the boundary of the pelvic cavity. This *sacral peculiarity* has been suggested by Breus and Kolikos the cause of contractions of the outlet. Of these 44 specimens, 34 had a sacrum slightly longer than the average, but 10 had shorter sacra. Similarly Dwight found that a dorsal region with 13 segments may be shorter than one with only 12. The "*fetal head*" scale showed 24 outlets smaller, but 20 larger than the average. Thus it seems fair to conclude that this increase in the number of sacral segments can hardly be considered a potent cause of outlet contraction, for it is only a little more than an even chance that, if the sacrum consists of 6 segments, the outlet will be smaller than the average.

*False promontories* were found in 18 and double promontories in 2 pelvises. In nearly all the 20 the inlet was roomy.

*Deductions.*—1. Normal female pelvises vary considerably in size, shape and type. These variations have here been tabulated.

2. The frequency with which to expect certain anatomical peculiarities has been determined.

3. The effect of these peculiarities on the pelvic cavity is shown.

4. The sacrum may contain from 4 to 6 segments, usually 5.

5. False promontories may be of no obstetric significance.

6. The normal inlet varies much, but is probably always efficient.

7. The normal outlet contracted once in every ten pelvises may cause dystocia, never obstruction.

8. The "*normal*" of the pelvis as a whole or any of its measurements is believed to consist of a graded variable within the minimum and maximum limits.

NOTE. The complete article, including statistics, diagrams and photographs will appear in *Biometrika*, London, England.

## Book Reviews.

*Surgery of the Deformities of the Face.* Including Cleft Palate. By JOHN ROBERTS, A.M., M.D. Illustrated with 273 figures. New York: William Wood & Co. 1912.

This volume represents the Mütter lectures delivered by the author before the College of Physicians of Philadelphia, in 1900, and embodies the results of his extended experience in plastic surgery. It is more than a mere treatise on technic: it is a study of principles and of rationale. The chapter on hare-lip seems rather superficial and inadequately illustrated; but that on cleft palate is admirable and satisfactory. Hardly enough emphasis is laid on the various methods

of skin-grafting, and on its importance and value in plastic procedures. As a whole, however, the book is a useful contribution to the literature of facial cosmetic surgery.

*The New Physiology in Surgical and General Practice.* By A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.E. New York: William Wood & Co. 1911.

This volume, according to the statement of its preface, "is an attempt to sift out from the new physiology that which is likely to be of value in the actual diagnosis and treatment of patients." It is "intended for the general practitioner, the consulting surgeon and candidates for the higher examinations in physiology." In accordance with this avowed purpose, the book deals successively with the surgical and clinical applications of the more recent discoveries in the physiology of the thyroid, parathyroid and pituitary glands, of digestion and absorption, of the blood pressure, and of uric acid and other urinary deposits. There are also chapters on the hemorrhagic diathesis, on acidosis, acetonemia and diabetes, on chloroform poisoning, on nerve injuries, on the surgical physiology of the spinal cord, on cerebral localization and on the action of cutaneous anesthetics. There are appropriate references at the end of each chapter. An appendix contains urinalyses in cases fed by nutrient enemata. The book is of value and deserves careful reading.

*Modern Methods in Nursing.* By GEORGIANA J. SANDERS. With 228 illustrations. Philadelphia and London: W. B. Saunders Company. 1912.

This volume, which is uniform with the series of textbooks for nurses issued by this publisher, is a very complete and elaborate work. It represents the cumulative results of Miss Sanders' very rich experience in teaching, and aims to present the essentials of the entire field of nursing in a form "that shall fit the curriculum required by a modern training-school." So large a field seems almost impossible to cover adequately. Miss Sanders has succeeded, in considerable part because she has undertaken to write only of those things which it is a nurse's business to know. The illustrations are in the main excellent and well chosen. A few misprints, such as "*si opud sit*," on page 348, will doubtless be corrected in subsequent editions. Miss Sanders is to be congratulated on the success with which she has accomplished her work. Her book has the merits of English thoroughness and precision, modified by American versatility and energy. It should become a standard of value for nurses throughout the study and pursuit of their profession.

*Clinical Diagnosis. A Manual of Laboratory Methods.* By JAMES CAMPBELL TODD, Ph.B., M.D. Illustrated. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders Company. 1912.

The first edition of this work, published under the title of "A Manual of Clinical Diagnosis," was reviewed in the issue of the JOURNAL for

Jan. 21, 1909 (vol. clx, p. 81). In the present edition the general scope has been somewhat enlarged. Every section has been carefully revised and considerable new material included. Among the more important additions are comments on photomicrography, on the use of artificial light in microscopy, and on the detection and significance of albumin in the sputum; and consideration and description of the antiformin method for the detection of tubercle bacilli, of Tsuchiya's modification of Esbach's test, of the formalin test for ammonia, of Benedict's methods for the determination of sugar in urine, of Wright and Kinnicutt's method of counting blood-platelets, of Harlow's blood-stain, of a simple technic for the diagnosis of typhoid fever by blood cultures, of the Wassermann reaction, and of Frothingham's impression method in the diagnosis of rabies. The chapter on animal parasites has been entirely rewritten and greatly enlarged; and two new chapters have been added, one on bacteriologic methods, supplementing the methods given in other parts of the book, and one on the preparation and use of bacterial vaccines, including the therapeutic and diagnostic use of tuberculin. There are many new illustrations, and a colored plate showing Negri bodies.

Dr. Todd's volume lives up to the purpose avowed in his original preface, — "to present a clear and concise statement of the more important laboratory methods which have clinical value, and a brief guide to the interpretation of results." The book is well written and represents a natural development from teaching notes. There seems no reason to modify the favorable opinion expressed in our review of the first edition. The work should continue its practical usefulness to students and practitioners.

*Clinical Immunity and Sero-Diagnosis.* By A. WOLFF-EISNER, M.D., Berlin. Translated by RAY W. MATSON, M.D., Portland, Ore., U. S. A. Revised and edited, with a special introduction by the author. New York: William Wood & Co. 1911.

The two most noteworthy recent publications in English on immunity and serology are Bolduan's original work on "Immune Sera" (the latest edition of which was reviewed in the issue of the JOURNAL for Oct. 5, 1911, vol. clxv, p. 532), and Gay's compilation of Bordet's "Studies in Immunity" (reviewed in the issue of the JOURNAL for Dec. 9, 1909, vol. clxi, p. 864). The present volume does not in any sense replace or supersede these. It is essentially a clinical, rather than a laboratory, study. Antitoxic immunity is dealt with very briefly, serum therapy is entirely omitted. The subject of anaphylaxis, however, receives extensive consideration. The book aims to be a simplification of the science of immunity, so that the practicing physician can apply it in his daily work. Matson's translation is accurate, though not idiomatic. A supplementary chapter on salvarsan was written by the author especially for this English edition.

# THE BOSTON Medical and Surgical Journal.

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## MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE one hundred and thirty-first meeting of The Massachusetts Medical Society was held in Boston, June 11 and 12, under fair weather conditions and with a large attendance. Certain innovations were made this year, the most notable of which was in the time of the annual dinner. Owing to certain distractions in the way of field sports, which of late years has seriously interfered with the post-prandial exercises, it was deemed advisable to have the dinner on the evening of the second day of the meeting rather than at noon, as had previously been the custom. The result entirely justified this experiment. The attendance was large, and the after-dinner speaking, most excellent in quality, was followed with interest and attention by a very large number of the members of the society.

The president, Dr. George B. Shattuck, in his introductory remarks drew attention to the various activities of the society, and emphasized the fact that it has not "rested unduly in the ruts of past traditions and practices." The suggestion recently made that the annual meeting be held at one of the smaller cities of the state has been given due consideration, with the result that the proposition has been rejected by the council. The question also of the term of incumbency of the president has been raised, and here again the decision reached that two years is none too long for usefulness in that position.

Dr. Shattuck also drew attention to the gratifying membership in the society, which now numbers 3,381, — something over seven hundred more than those enrolled in the combined societies of the other New England states. Other matters of

interest to which allusion was made is the proposed annual publication by the secretary of a directory of the Fellows; increased flexibility in district membership and registration; the formation of a new committee, at the suggestion of Dr. Arthur T. Cabot, to be known as the Committee on Public Health, the chairman of which is Dr. Mark W. Richardson, secretary of the State Board of Health; and the work which the society has undertaken in the defense of malpractice suits. The president asked the interest of the Fellows in the Massachusetts Medical Benevolent Society, the activities of which in caring for physicians, their widows and children, are too little known and appreciated.

The after-dinner speaking was admirable, and should provide much food for thought in the coming year. Dr. Shattuck was happy in his introduction of the following speakers: Lieut.-Gov. Robert Luce; President A. Lawrence Lowell, of Harvard University; President Maclaurin, of the Massachusetts Institute of Technology; Mr. W. H. Thompson, of the Boston bar; Dr. Joseph Ransohoff, of Cincinnati; Dr. David L. Edsall, recently appointed Jackson professor of clinical medicine at the Harvard Medical School, and finally, Dr. Walter P. Bowers, of Clinton, president-elect of the society.

Lieutenant-Governor Luce, in eloquent fashion, made the usual but never too often repeated appeal to the physicians of the state to remember their citizenship and to be active in advice in matters of public health. President Lowell made a plea, not only for a high preliminary standard of medical education, but also urged the necessity of getting at the facts regarding the advisability of urging upon parents the earliest possible attention to serious study on the part of children. President Maclaurin, representing as he does a technical school of the very highest rank, warned against the tendency to divorce science from practice, a danger which he apprehends in medical education. Mr. Thompson forcibly presented his views, well known to those who have followed the discussion of recent years, on the important matter of expert testimony. In a logical and closely reasoned speech he insisted that no solution for the present unsatisfactory state of affairs was to be expected from the appointment by the court of selected experts, but urged rather as a possible means of improvement an adoption of the English custom whereby judges properly educated in the principles of science might be given authority to express opinions on the worth of evidence. He saw in

the development of the vigor and enlightenment of the judge, together with a right to express his opinion, a definite source of hope for the present deplorable state of affairs. Dr. Joseph Ransohoff, of Cincinnati, who had also taken part in the scientific session, brought the greetings of the West, and amused the assembled company by a witty description of appendicitis as narrated by a physician of the old school. Dr. Edsall in concluding the formal speaking combatted the idea that the laboratory has introduced an impractical element into the study of medicine. On the other hand, he showed that the personal attitude between teacher and student as exemplified in laboratory research has permeated the clinical branches, and that if any distinction were to be drawn, the method of work inculcated by the laboratory has influenced all medical teaching toward practical ends. The president-elect, Dr. Bowers, in announcing the adjournment of the meeting, made brief and apt remarks on his assumption of office.

The councillors' meeting was this year of more than usual interest, due to the report of the committees on State and National Legislation, on Medical Education and of the new committee on Public Health. The activity of the society as represented by its committee on State and National Legislation is shown in the number of bills which have been favored and opposed during the present session of the legislature. A summary of this work will be published in a later issue of the JOURNAL. The report of the standing committee on Medical Education, read by Dr. H. C. Ernst, demonstrated what is being done throughout the country toward raising the general standard of medical instruction. This subject is one of perennial interest. Dr. M. W. Richardson, chairman of the committee on Public Health, read a succinct and forcible statement of the proposed work of this committee, which unquestionably, if it receives the co-operation which it expects and desires from the district societies and the profession at large, should prove of the greatest possible service in improving health conditions throughout the state.

Although an attractive program in the scientific sections was offered, the attendance at these meetings, as has been the case for many years past, was extraordinarily small. This is a matter for comment rather than criticism, but it remains a curious and interesting fact that the profession at large attaches so little importance to the papers presented, although every attempt is made to introduce subjects of general and widespread

interest. The Shattuck Lecture, given by Dr. David L. Edsall, was well attended, and his hearers were rewarded by an interesting discussion of some of the problems of respiration. Dr. Fernald delivered the Annual Discourse on the problem of the feeble-minded, a subject which all who have followed recent social questions will recognize as one of paramount importance now and in the immediate future. Dr. Fernald gave a clear, concise and impressive statement of present conditions and future needs in regard to this inefficient and dependent class.

In general, the society and its retiring president may well congratulate themselves upon a year of productive activity in large medical concerns.

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#### THE OPENING OF THE PSYCHOPATHIC HOSPITAL.

ON the afternoon of June 21, the new Psychopathic Department in connection with the Boston State Hospital will be thrown open for public inspection, as already announced in the JOURNAL. This departure in hospital construction unquestionably is significant from many points of view. It brings, in the first place, the study and treatment of mental disorders into the closest possible relation with general medicine, and will no doubt do more than any other agency to overcome the still remaining prejudice against hospitals dealing with mental disease. The director is a man of exceptional training for the work he is about to undertake, who has for a number of years devoted himself to the broader aspects of the problem of insanity from the pathological and general biological standpoint. It is not to be questioned that the energy and capacity for organization for scientific work which he has already shown will be still more in evidence in the broader opportunities which are now opening. In the second place it is probable that this hospital, devoted primarily to the investigation of the causes and conditions underlying mental disease, will be the forerunner of others. An ideal system would be one in which such centers of research should be closely associated with each of the large state hospitals. This ideal we are as yet far from attaining, but should the Boston psychopathic hospital fulfill the hope of its sponsors, it is not to be questioned that a strong impulse will be given toward the adequate study of insanity throughout the state.

The equipment of the new institution is complete, so far as present knowledge goes. It has also been ingeniously arranged that, as knowledge pro-

gresses, laboratories may be adapted to other uses than those for which they were primarily planned. The arrangements for patients are admirable in every respect, with ample provision for treatment in the open air and other requisites of modern hospital care. The location of the hospital is also fortunate in that it is situated in a relatively open space, yet near the centers of population in the metropolitan district. This again will no doubt serve to demonstrate that such a hospital is no more obnoxious to its immediate neighbors than one of any other type, a matter difficult of demonstration as the experience of other communities has proved until the experiment is actually tried. The state and the community which this institution is to serve are to be congratulated on a step which again places this commonwealth in the forefront of progress in the study and care of its dependent classes. In this connection, the fact should not be slighted that it is largely through the persistence of Dr. Walter Channing, chairman of the board of trustees of the Boston State Hospital, and to the faith and courage of Dr. Owen Copp, formerly secretary of the State Board of Insanity, that this hospital has come into existence at this time.

#### RECENT MEDICAL LEGISLATION IN MASSACHUSETTS.

On Thursday of last week, June 13, the annual session of 1912 of the Great and General Court of Massachusetts was prorogued in both its branches. The session of this year has been marked by relatively little medical legislation. Some measures of importance have failed, some good measures have been passed, and one very undesirable measure has been enacted. The latter is the so-called "Optometry Bill," to which we referred in last week's issue of the JOURNAL.

Most conspicuous among the omissions of this year's legislature was its failure to provide for much needed regulation of the production, transportation and sale of milk in this state. Several bills on this subject were introduced, among them a most excellent one accompanying the petition of Dr. Charles F. Withington, but all failed of enactment. Other measures which failed were those relating to the investigation of venereal diseases, and a very comprehensive but rather utopian one providing "for the cleanliness of food products and to enlarge the powers of boards of health in relation thereto." A resolve for improvements at the Westboro State Hospital was passed, vetoed by the governor, and his

veto sustained. Another resolve, for additions and improvements at the Worcester State Hospital, was also vetoed by the governor, but in this instance his veto was overridden.

Among the resolves enacted by this year's legislature may be mentioned three, providing respectively "for further investigation by the State Board of Health of infantile paralysis"; "for investigation by the State Board of Insanity as to the needs of the insane of the metropolitan district"; and "for a report by the State Board of Health relative to a definite policy for the treatment of tuberculosis."

A good bill that passed was that "to prohibit the use of common towels in public places, vehicles and buildings," an excellent supplement to the legislation of two years ago abolishing the common public drinking-cup. In connection with the towel bill it is interesting to note a bulletin, published last November by the Massachusetts State Board of Health, reporting the bacteriologic examination of twelve roller towels taken from public places. All these towels were found to contain many organisms of the *subtilis* type, and other saprophytic bacteria.

"No detailed study of the various saprophytic forms was undertaken, beyond noting their general characteristics and morphology. Particular study was made of any organisms found which might be presumably of fecal origin, such as *B. coli*. Bacilli of the colon type were identified by their morphology, staining reaction, and the composition of the gas produced in the fermentation of lactose bile.

"Following the large spore-bearing organisms of the subtiloid group in point of frequency, and of greater significance, were *staphylococci*, colonies of which were obtained from many of the towels. The presence of these pus-producing organisms would seem to indicate distinctly the possibility that *staphylococci* of high virulence might be transferred from one person to another through the use of the common towel.

"Of greatest significance, however, was the isolation from three of the towels of the *B. coli*, while from towel No. 5 there was isolated an organism identified as *Proteus vulgaris*. Thus towels Nos. 8, 11 and 12 furnished strong evidence of fecal contamination, and No. 5 was also most probably contaminated in the same manner."

In view of this evidence that "a considerable proportion of public roller towels become contaminated with human feces," the abolition of such towels in our state is cause for gratification.

Progress in hygiene, as in all other large measures of public good, is inevitably slow, and one must guard against dissatisfaction that it is not faster. In contemplating all forms of human activity



there is always an easy temptation to contrast unfavorably

"The petty done, the undone vast."

In medical legislation, as in other aspects of life, it is well to rejoice in the good that is accomplished, and be grateful that the evil is no greater.

#### MEDICAL EDUCATION IN EUROPE AND IN AMERICA.

IN 1910, the Carnegie Foundation for the Advancement of Teaching published an elaborate report, by Dr. Abraham Flexner, of New York, on "Medical Education in the United States and in Canada." It has recently published another report by the same author on "Medical Education in Europe."

In his introduction to the latter report, Dr. Henry S. Pritchett, president of the Foundation, contrasts, compares and comments on the conditions of medical education in Europe and in America. In the course of his comment he says:

"Scandals in medical education exist in America alone. In no foreign country is a medical school to be found whose students do not learn anatomy in the dissecting room and disease by the study of sick people. It has remained for the United States and Canada to confer annually the degree of doctor of medicine upon, and to admit to practice, hundreds who have learned anatomy from quiz-compendes, and whose acquaintance with disease is derived not from the study of the sick, but from the study of textbooks. These scandalous conditions are less widespread to-day than they were a decade ago; yet they are still to be found in almost all sections of the country, even in the most cultivated. The state of Massachusetts tolerates in the city of Boston, the state of New York tolerates in the city of New York, the state of Illinois tolerates in the city of Chicago, the state of Missouri tolerates in St. Louis, the state of California tolerates in San Francisco, so-called medical schools that pretend to train doctors, despite the fact that they are without adequate clinical facilities. In no European country is it possible to find an educational farce of this description. There, every school has adequate clinical resources under complete control. If the lowest terms upon which a medical school can exist abroad were applied to America, three fourths of our existing medical schools would be closed at once. And, let me add, the remaining fourth would be easily and entirely adequate to our need. Managers of feeble medical enterprises in our country pretend that they are making great sacrifices for the public good. This hypocritical pretence ought not to be permitted longer to damage the public interest. No medical school that lacks proper facilities has any other motive than the selfish

advantage of those that carry it on and no civilized country except America at this day allows such enterprises to impose upon the public."

This may seem to some perhaps a severe arraignment. Nevertheless it is based on the facts contained in Dr. Flexner's two complementary reports. Dr. Flexner believes that, in spite of serious defects, the ideal standards of medical education are still most closely approached in Germany.

"The German universities absolutely control the hospitals in which their clinical teaching is given. These hospitals are not always the property of the universities, but may be municipal and private hospitals in which the university appoints the hospital staff, which thus becomes the clinical faculty of the university. In Great Britain and France conditions are in some respects even more favorable to the student, for there students are more freely admitted to hospital wards as clerks and dressers, a practice that is being introduced in the United States wherever hospitals make favorable arrangements with university faculties. Nowhere in Europe is medical education carried on by any institution without abundant clinical material. Even in the small German university towns like Tübingen, with only 1,500 inhabitants, clinics of 600 or 800 beds are to be found."

Other sections of the report deal with the history of the development of modern medical schools in Europe, with methods of examination in medicine, with post-graduate medical instruction and with the medical training of women. Despite the excellence of established and authorized medical education in European countries, quackery and charlatanism flourish there as here. This seems at present inevitable wherever legislation does not suppress irregular practice. Against such practice, however, the enlightened in any country can be safe. It is almost more needful that they be guarded against legalized incompetence than against malicious malpractice.

#### BRITISH MEDICAL BARONETS.

THE order of the Baronetcy was instituted in England on May 22, 1611, by James I, who is said to have offered the first patent to his physician, Dr. Henry Atkins. The latter, however, declined the honor, since in those days it involved the obligation to maintain thirty soldiers for the king for three years. The first British physician to accept a baronetcy was Dr. Edward Greaves, physician-in-ordinary to Charles I, who conferred the patent on May 4, 1645. Since this time, eighty-six medical men have been made

baronets, and of these titles twenty-four are now extinct or in abeyance. The issue of the *British Medical Journal* for May 25 contains an interesting account of these medical baronets with brief sketches of their careers.

Sir Hugh Smithson, the fourth in the series, was the impecunious grandson of a Yorkshire baronet. He practiced for a time as an apothecary in Hatton Garden, and on Aug. 2, 1660, was himself awarded a baronetcy by Charles II, less for his medical services than for his political fidelity to the Stuart cause. He later married the heiress and only daughter of the Earl of Northumberland, and on the latter's death succeeded to the earl's arms and adopted his family name of Percy. This was the same proud family to which belonged the famous Hotspur. In 1667 the apothecary earl was created first Duke of Northumberland, and on this occasion it was suggested that he should replace the strawberry leaves on his coronet with senna leaves. The present Earl Percy, who holds the picturesque seat of Guy's Cliffe, Warwick, is one of his descendants; and by another descendant of his original family was founded the Smithsonian Institution at Washington, D. C.

The seventh British medical baronet was Sir Hans Sloane, physician-in-ordinary to Queen Anne, George I and George II. He received his patent from George I on April 3, 1716. Elizabeth, the only child of Sir Hans, married Earl Cadogan, to whose title the Sloane baronetcy is still an appendage.

Another medical baronet who succeeded in merging his title in the peerage was Sir Lucas Pepys, of the same family as the celebrated diarist. Sir Lucas was physician-in-ordinary to George III, from whom he received his patent on Jan. 22, 1784. This baronetcy was subsequently united with the earldom of Cottenham.

Sir Henry Holland, physician-in-ordinary to Queen Victoria, was made a baronet on May 10, 1853. His son, the second baronet, was raised to the peerage as Viscount Knutsford. The late Lord Lister was the only medical baronet who has been raised to the barony for his own merit.

Of the eighty-seven British medical baronets thirty-six were created by Queen Victoria, eleven by Edward VII, and seven thus far by George V, one of the latter group being Sir William Osler. In addition to these original creations, fourteen British physicians have from time to time inherited baronetcies of non-medical origin. No British peer, however, so far as known, has ever

become a physician. It is also interesting to note that in only six cases has the son of a medical baronet followed his father's profession; and in no case has this occurred in the third generation. Apparently in England social temptations are still too strong to permit the development among medical baronets of those successions of physicians in the same family which already in a number of instances have distinguished our profession in America.

#### THE INCIDENCE OF GENIUS.

GENIUS has been termed a disease. Certainly its correlation with some forms of insanity seems more than fortuitous. In reality genius is probably a form of mental variation which happens to be phenomenally well adapted to certain circumstances of environment, though it may prove destructive to the organism as a whole, and therefore unfit to survive. Before the individual genius perish, however, it may accomplish work of immeasurable value to humanity, and in this lies its power and value.

Whether or no genius be a disease, it seems to be neither preventable nor surely transmissible. Perhaps the eugenists may in time be able to select and propagate it with as much success as that with which breeders and agriculturists cultivate prize strains of cattle and plants. But in the present status of human affairs there is no computing the incidence of genius. Sir Francis Galton, the celebrated English writer on heredity, estimated that one person in five thousand may properly be termed a genius, but declared that the same form or degree of genius is seldom inherited. Distinguished men are rarely the offspring of an eminent ancestry, and the children of the famous are usually obscure.

Not all geniuses, however, are famous, nor are all famous persons necessarily endowed with genius.

" Full many a gem of purest ray serene  
The dark, unfathomed caves of ocean bear."

Perhaps the capacity for genius, the susceptibility to its development, is an inherent or latent quality in the human mind. Probably, however, the majority are happily immune to its incidence.

As a matter of fact genius thus far defies all known laws of physiologic or pathologic interpretation. It has been said that widespread education is unfavorable to the development of genius. When everyone has a modicum of ability, no one can possess a monopoly. The hundred talents of the rich man are divided among the

ninety and nine who formerly would have had none. Perhaps the eradication of genius may be one of the democratizing results of the development of modern sociology. Yet the paradox of our parable reacts upon itself. Genius, if it be not disease, is itself as democratic as disease, and as indeterminable as the wind that blows where it listeth. The method of nature is empiric, and genius may be regarded as one of her experiments. In a recent article on "Haphazard Nature," Mr. John Burroughs has said:

"Blind, groping, experimenting, regardless of waste, regardless of pain, regardless of failure, circuitous, ambiguous, traversing the desert and the wilderness without chart or compass, beset with geologic, biologic and cosmic catastrophies and delays, yet the great procession of the life of the globe, with man at its head, has arrived and entered into full possession of the inheritance prepared for it."

In that triumphal progress, it is human genius which from step to step has played the part of Prometheus, and snatched the fire of truth for mankind from on high or from the deeps. Genius is a mystery, rather than a disease, and its incidence more inscrutable than the miracles which it has performed.

#### STATISTICS.

DR. CRESSY L. WILBUR, Chief Statistician for Vital Statistics of the United States Census Bureau, has well termed statistics the Cinderella of the Sciences, sitting in the chimney corner, sifting dusty figures, while her proud sisters go to the ball and talk about the wonderful things they have done. However, this Cinderella was for once at least most chivalrously toasted at a recent Lord Mayor's banquet in London; though she was not "among those present." On this occasion Mr. Leonard Courtney observed he had found poetry in statistics; and had he but the gift divine would have been able to see in the array of figures (which seemed so dull and uninviting) pictures of the movements of life as exciting, as vital and as interesting as any the poetic muse could inspire. Whereupon Lord Onslow responded for the statisticians that only their work and duty are termed dull and uninviting: it is the statistician's business to state facts; these are sometimes dull, but the inferences made from them are almost invariably entertaining.

Statistics are capable, like the yeast in the bread, of developing poetry and imagination —

and humanity too. What a picture, for example, is conjured up by the statistical statement that "consumption kills every third or fourth adult" — a picture of suffering among the sick of this disease, of hardships and sadness among surviving kin, of poverty, rotten living conditions, occasionless burdens (oftentimes imposed by greed and meanness), under which so much of humanity grunts and sweats under a weary life, and dies untimely.

Statistical science owes its inception to the general scientific spirit of our age; it is absolutely essential to the normal development of this spirit. Statistics are the bookkeeping of science. A survey of the progress of statistics made at the tenth section of the International Institute in London demonstrates that statistics are almost coeval with the century of great inventions. An object of this institution has been to make scientific statistics no longer insular or continental but universal in scope and application.

It is highly essential that before acceptance statistics be examined from all points. It is only too well said that they can be manipulated to prove pretty much any position one cares to take. One great difficulty is ever to eliminate the personal equation in the premises. Science should always be impersonal; that it oftentimes is not, those will agree who have attended scientific gatherings to any extent.

#### MEDICAL NOTES.

A BRITISH CENTENARIAN. — Mrs. Sleep, of Barnstaple, Devonshire, England, who died on May 8, 1912, is said to have been born on March 22, 1812.

GLASGOW ROYAL CANCER HOSPITAL. — The new buildings of the Glasgow Royal Cancer Hospital were opened recently in Glasgow, Scotland, by the Duchess of Argyle.

TORONTO HOSPITAL FOR CONSUMPTIVE CHILDREN. — The cornerstone of a new hospital for consumptive children was laid recently in Toronto, Canada, by the Duke of Connaught.

AN ACTIVE BRITISH CENTENARIAN. — Mrs. Clark, of London, who is reputed to have been born in May, 1805, recently celebrated the supposed one hundred and seventh anniversary of her birth by a party, at which she is alleged to have danced with her eldest and her youngest son, aged respectively ninety and seventy years.

**STATE SUPPORT OF CHILDREN IN HUNGARY.** — Report from Budapest on June 1 states that a bill has been recently introduced in the Hungarian parliament providing that every civil servant shall receive from the government, in addition to his regular pay, an additional annual allowance equivalent to \$40 each for all minor children in his family. The purpose of this measure is to encourage the raising of children and if possible increase the birth-rate in Hungary.

**RESEARCH HOSPITAL AT CAMBRIDGE UNIVERSITY.** — On May 24, there was formally opened, with appropriate ceremony, the new Research Hospital which the British Committee for the Study of Special Diseases has established at Cambridge, England. This institution, like the Rockefeller Institute for Medical Research and the Peter Bent Brigham Hospital, will be devoted not only to the care of the sick, but especially to the scientific observation of groups of cases and investigation of the problems which they present. The first subject to be particularly studied will be that of chronic arthritis. The hospital was welcomed in behalf of the Royal College of Physicians and Surgeons, by Dr. Sir Clifford Allbutt and Dr. Norman Moore.

**A NEW NATIONAL SOCIETY.** — On June 6, at Atlantic City, during the meeting of the American Medical Association, and following a symposium on anesthesia, the National Society of Anesthetists was organized. Prof. Yandel Henderson, of Yale, chairman of the commission on anesthesia of the American Medical Association, occupying the chair, those assembled for the symposium acting as a committee of the whole proceeded to organization, and elected the following officers for the year 1912-1913.

President, James T. Cwathney, of New York; vice-presidents, Charles K. Teter, of Cleveland, F. H. McMeechan, of Cincinnati, Yandel Henderson, of New Haven; secretary, William C. Woolsey, 88 Lafayette Avenue, Brooklyn; treasurer, Harold A. Sanders, of Brooklyn.

The constitution and by-laws were ordered to be drawn by the executive committee and submitted to the Society at its next meeting for adoption; all names submitted for membership, if qualified in the estimation of the executive committee, shall be considered as charter members if presented within a period of sixty days and accompanied by the levied due of three dollars.

The National Society of Anesthetists in this notice calls all those who are actively interested

in this work to join its ranks and assist in developing the subject of anesthesia to greater perfection and more uniform safety.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, June 11, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 26, scarlatina 10, typhoid fever 17, measles 164, smallpox 0, tuberculosis 60.

The death-rate of the reported deaths for the week ending June 11, 1912, was 12.53.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, June 15, 1912, was 184, against 208 the corresponding week of last year, showing a decrease of 24 deaths, and making the death-rate for the week, 13.32 against 15.74. Of this number 94 were males and 90 were females; 178 were white and 6 colored; 113 were born in the United States, 70 in foreign countries and 1 unknown; 43 were of American parentage, 128 of foreign parentage and 13 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 24 cases and 2 deaths; scarlatina, 15 cases and 0 deaths; typhoid fever, 12 cases and 1 death; measles, 114 cases and 1 death; tuberculosis, 56 cases and 16 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were 22, whooping cough 0, heart disease 24, bronchitis 0. There were 16 deaths from violent causes. The number of children who died under one year was 34; the number under five years, 42. The number of persons who died over sixty years of age was 43. The deaths in hospitals and public institutions were 76.

**MASSACHUSETTS PHARMACEUTICAL CONVENTION.** — The annual convention of the Massachusetts State Pharmaceutical Association was held at Swampscott, on June 18, 19 and 20.

**CASE OF LEPROSY IN BOSTON.** — A case of leprosy was discovered in Boston last week in the person of a Chinese waiter who came to this city recently from Providence, R. I. The patient, who is thirty years old, has been sent to the leper colony on Penikese Island.

**TYPHOID FEVER IN EAST BOSTON.** — Within the past week fourteen new cases of typhoid fever have been reported in East Boston. It is believed

that this unwonted outbreak is due to a milk-borne infection, and investigation is being made to determine the origin, possibly in some typhoid fever carrier.

**ARRAIGNMENTS FOR ILLEGAL SALE OF HEROIN.** — Before the Cambridge (Mass.) District Court, last week, two druggists of that city were arraigned for illegal sale of heroin. One pleaded guilty and was fined \$25; the other was held in \$100 bail.

**RECENT HOSPITAL BEQUESTS.** — The will of the late Christopher J. Burrell, of Boston, which was filed last week in the Suffolk Registry of Probate, contains a bequest of \$500 to the Carney Hospital, South Boston.

The will of the late Mgr. Jeremiah E. Millerick, of Boston, which was filed on June 14 in the Suffolk Registry of Probate, contains a bequest of \$1,000 each to St. Mary's Infant Asylum and to the Carney Hospital, South Boston.

The will of the late Catherine Simons, of Middletown, Conn., contains a bequest of \$500 to St. Monica's Home for Sick Colored Women and Children, Roxbury, Mass.

**NEEDS OF INFANTS' HOSPITAL.** — In response to a recent appeal made by the Infants' Hospital, Boston, for funds to complete its new building near the Harvard Medical School, donations have been received from many parts of the United States and Canada, bringing the total up to \$53,194. Further contributions to this fund are earnestly solicited.

**INCREASES OF SALARY IN BOSTON HEALTH DEPARTMENT.** — In accordance with a recommendation of Dr. Samuel H. Durgin, retiring chairman of the Boston Board of Health, the mayor has authorized increases in salaries in the department as follows: Dr. William J. Gallivan, chief of the Bureau of Child Hygiene, from \$2,500 to \$3,000; Dr. W. H. Davis, mortality statistician, from \$2,000 to \$2,500; Frank Motte, chemist in the Bureau of Milk Inspection, from \$1,500 to \$1,800; and Miss Marion Wade, assistant director of the bacteriological department, from \$1,200 to \$1,400.

The Health Commissioners also appointed seven additional nurses in the child hygiene department at \$75 a month.

**GRADUATING EXERCISES OF TRAINING SCHOOLS.** — The annual graduation exercises of the Long Island Hospital Training School for Nurses

were held in Boston. The principal address was delivered by Dr. Walter E. Paul, of this city. Diplomas were awarded to nineteen pupil candidates.

The first annual graduation exercises of the new Choate Memorial Hospital Training School for Nurses at Woburn, Mass., were held in that town on June 11. The principal addresses were made by Dr. William M. Conant, of Boston, and by Miss Sara E. Parsons, superintendent of nurses at the Massachusetts General Hospital. Diplomas were awarded to seven pupil candidates.

**SCARES AND PROPHYLACTIC DIFFICULTIES.** — A press description of the recent dedication of a new dental clinic in this city stated that a large part of its work would be devoted to the "prevention of scares and prophylactic difficulties." The misprint of "caries" is obvious, but it is interesting to wonder just what must have been the lay reporter's idea of the meaning of "prophylactic."

**A LIVING CENTENARIAN.** — Mrs. Benjamin de St. François, of Malden, Mass., who is said to have been born on June 12, 1912, at St. François, P. Q., Canada, the daughter of a local Indian trader, celebrated last week her supposed centennial anniversary. She came to the United States in 1851, and for many years lived in Manchester and in Lawrence, Mass. She has been a widow for many years. Of her seven children, three daughters are still living. She has also four grandchildren and two great-grandchildren. Her health is said to be excellent for one of her age.

**REPORT OF BROCKTON BOARD OF HEALTH.** — The recently published thirtieth annual report of the department of public health of the city of Brockton, Mass., records the work of that body for the year 1911. Particularly to be noted are the vital statistics, which show a birth-rate of 24 per 1,000 inhabitants, an infant death-rate of 80 under one year of age per 1,000 births, and a total death-rate of 11.26 per 1,000 living. The board of health is especially active in milk inspection, and for some years has made a custom of publishing regularly the bacterial counts of milk supplied by the various local dealers.

**BUSTS OF DR. JOHN WARE.** — There has recently been presented to the President and Fellows of Harvard College and placed in the Warren Museum, at the Harvard Medical School, a marble bust of Dr. John Ware, who from 1836 to 1858 was Hersey professor of the theory and

practice of physic in the school. The plaster model of this bust has also been presented to the Boston Medical Library and placed in John Ware Hall. Dr. Ware was a founder and one of the original board of three editors of the JOURNAL. He was also a founder of the Boston Society for Medical Improvement and president of The Massachusetts Medical Society. The bust is the work of Mr. Bela Pratt, of this city.

**HOSPITAL FOR THE TREATMENT OF APPENDICITIS.** — It is announced that next October a new hospital will be opened in Boston, to be devoted exclusively to the treatment of appendicitis. It will be in charge of Dr. William A. Brooks, Jr., and Dr. George Oliver Clark, of this city, who will have continuous services. The institution has been established by the charitable generosity of a number of private individuals.

"The old Phillips house, a part of the Phillips estate at 104 Beacon Street, has been acquired. The house is a large brick structure, with open ground all around it. The building is large enough for the care of both ward and private patients. One addition will be built immediately for a kitchen and laundry on the first floor and a large operating room on the second floor. In time it is expected that a large ward will be extended from what would thus be made the main building, so that the ward patients will be entirely by themselves. An x-ray equipment for use in diagnosis is to be installed.

"The maximum charge for patients in the wards will be \$10 per week. No case will be refused because the person has no money to pay. In the case of the private-room patients, higher charges will be made.

"The official circular regarding the hospital says in part:

"It would almost seem that there were enough hospitals in Boston at the present time, but when it is borne in mind that within the next ten years there is every chance of Boston's becoming the center of the best medical and surgical work in the country, if not in the world, it would seem wise to hasten that object as much as possible.

"Through Dr. Reginald H. Fitz, of Boston, attention was first directed to the vermiform appendix as a cause of many so-called cases of inflammation of the bowels. Since then, as a result of his work, many lives have been saved. There are still, however, too many lives lost, and some problems remaining to be solved. Therefore, we believe that the time has come to establish, the first of its kind in the world, a hospital devoted entirely to the treatment, cure and investigation of this disease.

"It is proposed to make this hospital as nearly as possible self-supporting. There will be wards for charitable and semi-charitable cases, who will pay as much as they can afford of the ward rates.

There will be private rooms, the rental of which will go toward supporting the charitable end of the hospital. In other words, all money received for board and nursing will be appropriated to the support of the whole institution.

"It is proposed to train a corps of graduate nurses.

"By devoting its attention to a single group of surgical diseases, it is expected that the hospital will acquire a position of authority.

"Of all available material, it is proposed to make an exhaustive study with the aid of a trained pathologist, in an earnest attempt to contribute thereby to the solution of the appendix problem.' "

#### NEW YORK.

**DROWNING OF TWO NURSES.** — Two women nurses of the Manhattan State Hospital for the Insane on Ward's Island were drowned in the East River on June 13. One of them, while in bathing, was swept away by the swift current, and the other lost her life in an heroic effort to rescue her.

**HIGH FREQUENCY CHICKENS.** — Dr. R. C. Lienau, a Brooklyn dentist, carrying out a plan which is said to have been successfully employed by Dr. Thorne Baker, of London, for forcing the growth of chickens, has equipped a farm on Long Island belonging to him with apparatus for treating his chickens with high frequency electric currents. It is stated that a voltage of 5,000 is used and that the average cost of the treatment from the start to the time of marketing is four cents a bird.

**POSSIBILITIES OF A COUNTRY PRACTICE.** — According to a newspaper report, which has the appearance of veracity, Dr. Alden, of Hammondsport, N. Y., was recently summoned by telephone to an urgent case in the hamlet of Urbana, a few miles distant. He, therefore, started off at full speed in his automobile, but when still ten miles from his destination this broke down. While hard at work in trying to put it to rights he heard above him the whir of a biplane, which had come along in the nick of time, and, signalling its occupant, who was on a trip from the Curtiss Aviation School, he explained his predicament and begged for a lift. The result was that he arrived at his patient's home more quickly than if his car had not gone wrong, and it is gratifying to learn that when he got there he found that the patient, a boy who had fallen down a stone stairway and was supposed to have fractured his skull, was suffering from nothing worse than a scalp wound.



**MORTALITY IN MAY.** — As in all the preceding months of this year, the mortality in the city in May was smaller than in the corresponding month of 1911, and it was also considerably smaller than in the month of April. The death-rate was 14.29, as against 16.09 in April and 15.39 in May of last year; and in the last week of the month the death-rate, 12.86, was the lowest in the records of the Health Department. Among the diseases in which there was a diminished fatality were the following: The weekly average of deaths from measles declined from 32 in April to 28.75 in May; the weekly average from scarlet fever, from 26 to 17.75; from diphtheria and croup, from 29.5 to 23; from influenza, from 7.75 to 3.5; from epidemic cerebrospinal meningitis, from 7.25 to 5.25; from pulmonary tuberculosis, from 192.25 to 175.25; from acute bronchitis, from 20.5 to 14; from pneumonia, from 127.25 to 114.5; from tubercular meningitis, from 25.75 to 23.25; from cancer, from 81.75 to 78; from apoplexy and softening of the brain, from 24.5 to 23.25; from organic heart diseases, from 174.5 to 158; from Bright's disease and acute nephritis, from 136 to 97; and from puerperal diseases, including septicemia, from 18 to 12.2. Among the few diseases in which there was an augmented mortality were the following: The weekly average of deaths from bronchopneumonia increased from 123 to 131, and of deaths from diarrheal diseases under five years of age, from 42.75 to 44. The number of deaths from both heart and kidney diseases was the smallest for many months.

**EPIDEMIC OF MEASLES.** — Dr. Abraham Fine recently wrote to Mayor Gaynor complaining of the inability of the Health Department to deal properly with the epidemic of measles which has prevailed in the city for the past three months or more. He stated that the disease chiefly attacked the children of the over-crowded tenements, and frequently left its victims in a thoroughly exhausted condition, and very susceptible to subsequent infections, especially tuberculosis. The department was supposed to perform fumigation at the expiration of two weeks, but, instead of this, three, and even four, weeks elapsed before an inspector ordered fumigation. In the meantime these pale, emaciated children were confined in close, unventilated and dark flats. The only reason for this hardship, he said, was that the department lacked sufficient inspectors; but the worried mother did not want to accept this explanation, and blamed her physician. The mayor referred this letter to Health Commissioner

Lederle, and the latter sent Dr. Fine a reply in which he acknowledged that what he had stated was undoubtedly true. In cases of measles, the commissioner said, the department ought to be able to fumigate at the expiration of two weeks, and it certainly was a hardship that children should be kept indoors for one or two weeks additional. The number of cases of this disease in the city during the last few months, however, had been considerably larger than usual. The department had not a sufficient number of inspectors to cope with this increased number of cases, and with the number of inspectors at present allotted to it, it could not fumigate promptly even the usual number of cases. In conclusion, he assured the doctor that the department was acting with all the promptness possible under the circumstances, and that the only hope for an improvement in present conditions lay in securing from the Board of Estimate and Apportionment such appropriation as would allow of the appointment of more inspectors.

**TYPHUS FEVER.** — In the *Monthly Bulletin* of the City Health Department for May, just issued, the subject of typhus fever in New York City, in accordance with the announcement made some time ago, is considered. Before treating of the disease in New York a sketch is given of the history of typhus in early and modern times and the characteristics of epidemics of it. The last such epidemic in the city broke out in February, 1892, among some Russian Hebrews who had arrived by the steamer *Massilia* from Marseilles, and continued, with an intermission between July and November, until July, 1893. As a result of this, isolated cases occurred in other places. A family of seven persons who had been exposed had been sent to Oakdale, Mass., and another family of five to Kinderhook, N. Y. The health officers of these towns were notified, and in both families cases of typhus were found. It was also ascertained on the day of the outbreak that four hundred Italians had arrived on the *Massilia* and had gone to various parts of the city and to places outside New York. Through the immigration authorities they were located, and a few cases were discovered among these Italians in Providence, R. I., and in Newburgh, N. Y. A somewhat peculiar feature of this epidemic was that the death-rate among the passengers of the *Massilia* was comparatively low, while among the residents of New York who contracted the disease from them it was high, and among Health Department employees very high. In

view of the report of Drs. Anderson and Goldberger of the United States Hygienic Laboratory positively identifying so-called Brill's disease with Mexican typhus, it is stated that it becomes the duty of the medical profession at large and of public health authorities to take cognizance of the fact that typhus fever, even though it be of a type far less virulent than that which has occurred from time to time in epidemic form, is now endemic in certain cities in this country. As but a very small number of the profession are familiar with this disease, physicians are referred to Dr. Brill's various papers on the subject, in which a total of 255 cases are studied, and to one by Dr. Louria, of Brooklyn, in which he reported observations on eighteen cases. Then follows Dr. Brill's general description of the disease bearing his name; after which is given a synopsis of the researches showing the identity of Brill's disease and typhus fever. In view of the conclusive evidence as to the true nature of Brill's disease, the *Bulletin* says, it would seem to be wise to discontinue the use of that term, although the medical profession and public health authorities generally should not fail to give recognition to the accuracy of observation and persistent study which enabled Dr. Brill to publish his exhaustive clinical and pathological description of the non-epidemic form of typhus fever. Though it remained for others to establish the identity of this affection, it should be said that Dr. Brill suspected its true nature. Typhus fever being a reportable disease, the Health Department will take such measures to prevent its spread as the newly discovered facts in regard to its transmission would seem to justify.

## Current Literature.

### MEDICAL RECORD.

JUNE 8, 1912.

1. JACOBI, A. *The Best Means of Combating Infant Mortality.*
  2. AUSTIN, G. *Heliotherapy in Surgical Tuberculosis.*
  3. MORGAN, J. D. *The Relation of the Clinical Professor to the Hospital, the Community, the Medical School and the Profession.*
  4. GOODHUE, E. S. *The Thermo-Hydropathic Treatment of Typhoid Fever and Other Inflammatory Conditions.*
  5. AUSTIN, A. E. *The Significance of the Ratio of Free Hydrochloric Acid to the Total Acidity in Determining Impaired Motility of the Stomach.*
  6. \*FLOERSHEIM, S. *The Influence of Sodium Chloride upon the Hydrochloric Acid of the Gastric Juice.*
6. Floersheim made some clinical experiments to determine the relation between ingested sodium chloride and the hydrochloric acid of the gastric juice. Patients with hyperchlorhydria were given a diet very poor in salt, and those with hypochlorhydria were fed salt freely both by mouth and rectum. The writer concludes that the quantity of sodium chloride taken into the body has no effect on the HCl content of the gastric juice. [L. D. C.]

### NEW YORK MEDICAL JOURNAL.

JUNE 8, 1912.

1. \*JACOBI, A. *The Best Means of Combating Infant Mortality.*
  2. CRAGIN, E. B. *The Hygiene of Pregnancy.*
  3. MAKUEN, G. H. *The Pathology of Deaf Mutism.*
  4. DYER, I. *Alopecia; Types and Treatment.*
  5. DAVENPORT, C. B. *Eugenics and the Physician.*
  6. DARLINGTON, T. *The Enforcement of Health Laws.*
  7. CLAIBORNE, J. H. *Vaccine Treatment in Ophthalmology.*
  8. DUNN, T. J. *Some Impositions Practiced on the Doctor.*
  9. PARKER, G. *Paraplegia, Probably Hysterical in Origin.*
1. Jacobi's "President's Address" at the recent session of the American Medical Association is an exposition of the present problem of infant mortality. He advocates two measures for the effectual combating of this state of affairs: 100% of our women should be made to nurse, and we should establish in the United States at least two hundred schools for midwives after the pattern of England and Germany. [L. D. C.]

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

JUNE 8, 1912.

1. JACOBI, A. *President's Address: The Best Means of Combating Infant Mortality.*
  2. BOZZOLO, C. *Notes on the Treatment of Ankylostoma Anemia (Uncinariasis; Hookworm Disease) with Thymol.*
  3. \*PARKER, G. *Treatment of Tetanus with Magnesium Sulphate, with Report of Three Cases.*
  4. \*HARRIS, S. T. *A Diagnostic Tender Spot in Pulmonary Tuberculosis.*
  5. ANDERSON, J. F. *Some Recent Contributions by the United States Public Health and Marine-Hospital Service to Preventive Medicine.*
  6. ROUS, P., MURPHY, J. B., AND TYTLER, W. H. *The Role of Injury in the Production of a Chicken Sarcoma by a Filterable Agent.*
  7. PORTER, J. Y., JR. *Inhaler for Gas-Oxygen, Gas-Oxygen-Ether, Gas-Ether, Ether or Chloroform.*
  8. HEARD, J. D. *Auricular Fibrillation.*
  9. VANDEGRIFT, G. W. *Successful Treatment of Gonorrheal Chorioiditis by Vaccines.*
  10. GROS, E. L. *An Antiseptic Thermometer Case.*
  11. DAY, H. F. *Unilateral Cervical Adenitis.*
  12. V. D. BOGERT, F. *A Simple Device for Collecting Urine from Female Infants.*
  13. WYLER, J. S. *Epilepsy (?) and a Refraction.*
3. Parker recites four very interesting cases of relief from tetanic convulsions and subsequent cure from the subcutaneous (as opposed to the subarachnoid) injection of a 25% solution of magnesium sulphate. Almost immediate relief from convulsions was experienced in each case. Doses of 2-8 dr. were given every two to four hours during the severest of the attack. There are some dangers such as toxic effects with respiratory and cardiac depression. These, however, can often be offset by the use of physostigmin.

4. Harris describes a new diagnostic tender spot in pulmonary tuberculosis. This spot is located immediately above the tip of the superior angle of the scapula at the insertion of the levator anguli scapulae. It is best to palpate both sides at the same time, exerting the same degree of pressure on both sides. The characteristic pain is quite severe, causing the patient to wince, or it may differ only in degree from the other side. [E. H. R.]

### BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

MAY, 1912.

1. \*FLINT, J. M. *The Effect of Extensive Resection of the Small Intestine.*
  2. \*DUKE, W. W. *The Behavior of the Blood Platelets in Toxemias and Hemorrhagic Disease: A Preliminary Report.*
  3. WOOLLEY, P. G., AND FEE, F. *An Alveolar Tumor of the Carotid Gland with Sarcomatous Transformation.*
1. Flint, in an exhaustive paper, describes the changes which take place after extensive resection of the small intestine. He finds that as much as 50% of the total

small intestine in dogs may be removed without fatal results. At first there is severe diarrhea, ravenous thirst and appetite, which gradually disappear. There is marked increase in the excretion of the nitrogenous, fatty and carbohydrate elements of the food. There is hypertrophy and hyperplasia of the remaining portion of the small intestine; this last does not take place in human cases, however. In the latter the amount of intestine resected bears no relation to the extent of the resulting metabolic disturbance. The prognosis in human cases should be guarded as neither the stomach nor the colon is able to compensate for the loss of large portions of the small intestine.

2. Duke believes that the great variations in the platelet count in many diseases is largely the effect of toxins, some of which in small doses increase the count and in large doses decrease it. There is an abnormal tendency to bleed when the count descends below 10,000. (J. B. H.)

THE LANCET.

MAY 25, 1912.

1. BLAND-SUTTON, J. *Fertilization in Relation to Pathology.*
2. \*EDEN, T. W. *The Clinical Diagnosis of Malignant Disease of the Body of the Uterus.*
3. \*BARLING, H. G. *On the Surgical Treatment of Aneurysm.*
4. BUZZARD, E. F. *The Early Diagnosis and Treatment of Epilepsy.*
5. VAUGH, J. C. F. D. *Lineæ Atrophicæ, Achloriduria and Typhoid Fever.*
6. DELEPINE, S. *Probable Effect of Control of Milk-Supply upon Infantile Mortality from Tuberculosis: Evidence Obtained in Manchester Regarding the Question.*

2. Eden considers the general incidence of malignant disease of the uterine body, the early symptoms, changes in the uterus recognizable by clinical examination, conditions which modify the clinical features and the differential diagnosis. The subject is presented in a systematic and clear manner.

3. Barling briefly discusses the various surgical methods of treating aneurysm and the advantages and disadvantages of each. In tabular form he presents sixteen cases. (J. B. H.)

JUNE 1, 1912.

1. WOODHEAD, G. S. *An Address on the Relations between the Human and the Bovine Tubercle Bacillus.*
2. MAYER, P. *The Medical Treatment of Cholelithiasis.*
3. RUSS, C. *An Improved Method for Opsonic Index Estimations Involving the Separation of Red and White Human Blood Corpuscles.*
4. CLARKE, J. M. *A Case of General Infection by the Influenza Bacillus.*
5. CAMPBELL, E. K., AND ALEXANDER, G. F. *The Operative Treatment of Concomitant Strabismus.*
6. HALL, A. J. *Two Cases of Mercurial Poisoning.*
7. WATSON, G. W. *Acute Focal Encephalitis.*

BRITISH MEDICAL JOURNAL.

MAY 25, 1912.

1. BLAND-SUTTON, J. *The Annual Oration on Fertilization in Relation to Pathology.*
2. BILLINGTON, W. *The Influence of Age and Type of Patient upon the Course and Treatment of Appendicitis.*
3. ANDREW, J. G. *The Operation for Acute Appendicitis: Primary Closure of the Abdominal Wound.*
4. DAUBER, J. H. *A Clinical Lecture on Early Diagnosis and Operation in Appendicitis.*
5. SPITTEL, R. L. *Cases of Perforations of the Stomach and Duodenum.*
6. STEWART, A. G. *Rupture of the Abdominal Wall, Post-Operative and Spontaneous.*
7. PARKER, R. *Strangulated Omental Hernia with Few Symptoms.*

JUNE 1, 1912.

1. \*JORDAN, A. C. *Some Points Concerning the Duodenum and the Appendix in Intestinal Stasis.*

2. \*CROWE, H. W. *The Auto-Inoculation Test in Tuberculosis.*

3. \*MACKENZIE, J. R. *The Paths of Rheumatic Infection and Their Protection in Children.*

*Reports to the Therapeutic Committee of the British Medical Association:*

4. MARSHALL, C. R., AND WOOD, J. K. *On the Standardization of Preparations of Indian Hemp.*

5. COOPER, E. A. *The Bactericidal Action of the Cresols and Allied Bodies and the Best Means of Employing Them.*

1. Jordan deplors what he chooses to call the widespread ignorance in regard to the signs and symptoms of intestinal stasis. He quotes a case of enlarged cystic breasts which were cured by "short-circuiting" her intestines as evidence of this ignorance! Among the various effects of intestinal stasis he mentions infections of the gall bladder, duodeno-jejunal breaking, duodenal ulcer, appendicitis, etc. He gives various illustrative cases and some excellent x-ray photographs.

2. Crowe finds that forced respiration over a period of minutes will show the presence of auto-inoculation by measuring the opsonic index if the case be one of active pulmonary tuberculosis. This test he believes to be harmless, not too delicate, but not of universal applicability nor simple in operation. He gives thirty-one illustrative cases in which it was of great value. He himself has found it of great help in some sixty instances.

3. Mackenzie, writing on the paths of rheumatic infection, concludes that the M. rheumaticus takes the path of least resistance, which may be an unhealthy throat, the bronchial tubes, a mild catarrh or a disordered condition of the intestinal wall. Either physical resistance, the protective properties of local tissue or the defensive agencies of the blood are below par. (J. B. H.)

ARCHIVES OF INTERNAL MEDICINE.

MAY, 1912.

1. \*TILESTON, W. *The Diagnosis of Complete Absence of Pancreatic Secretion from the Intestine, with the Results of Digestion and Absorption Experiments.*
2. BAILEY, C. H. *The Value of Absorption Methods in the Wassermann Test.*
3. \*DICKSON, E. C. *A Further Report on the Production of Experimental Chronic Nephritis in Animals by the Administration of Uranium Nitrate.*
4. \*MUSSEY, J. H., JR. *An Experimental Study of the Changes in the Blood Following Splenectomy.*
5. MILLER, J. L., AND LEWIS, D. *The Frequency of Experimental Glycosuria Following Injections of Extracts of the Hypophysis.*
6. \*DEXTER, R., AND CUMMER, C. L. *The Occurrence of Native Antisheep Amboceptor in Human Serum and its Importance in the Performance of the Wassermann Reaction.*
7. \*MILLER, J. A., AND REED, M. A. *Studies of the Leucocytes in Pulmonary Tuberculosis and Pneumonia.*

1. From an elaborate clinical study with report of six cases, Tileston reaches the following conclusions:

(1) The diagnosis of complete absence of pancreatic juice from the intestine can be made usually without the use of absorption experiments or complicated tests by attention to the following appearances of the feces: increased bulk, the presence of fat visible to the naked eye, of microscopic fat droplets in large numbers and of creatorrhea.

(2) The complete absence of pancreatic juice interferes greatly with the absorption of fat and of nitrogen.

(3) The fat-splitting in this condition is usually normal, sometimes decreased.

(4) The saponification is almost always much diminished and the fatty acids always exceed the soaps.

(5) Exclusion of both the bile and pancreatic juice causes a considerably greater loss of fat, and a somewhat larger nitrogen loss than where the pancreatic juice alone is excluded.

(6) In the absence of icterus, a fat loss of 40% or over, and a nitrogen loss of over 30%, point almost with certainty to pancreatic disease, provided that the following conditions are excluded: diarrheal diseases, amyloid and

tuberculosis of the intestine, tuberculosis of the peritoneum and mesenteric lymph nodes. If icterus is present, a fat loss of more than 50% favors pancreatic disease, and the greater the loss, the stronger the probability. The value of the nitrogen determination is but slightly impaired by the presence of jaundice, for in simple icterus the nitrogen loss is but slightly above the normal.

(7) The amount of the fat-splitting has usually but little diagnostic importance; a very great reduction, however, is suggestive of pancreatic disease.

(8) An excess of soaps over fatty acids renders the diagnosis of complete absence of the pancreatic juice extremely improbable.

(9) By the administration of raw pancreas or of pancreatic preparations in pancreatic disease the absorption of fat and nitrogen as a rule can be greatly improved.

(10) In a case in which both the gastric and the pancreatic secretions were deficient, the absorption of nitrogen was considerably increased by the administration of hydrochloric acid and pepsin, though not to the same extent as by pancreatic preparations.

3. From an extensive series of animal experiments, Dickson reaches the following conclusions:

(1) By the administration of uranium nitrate it is possible to produce a chronic diffuse nephritis in guinea pigs, rabbits and dogs.

(2) The histological picture of the lesions is characteristic and is analogous to, but not identical with, that found in chronic diffuse nephritis in man.

(3) The chronic lesions, even in the most severe cases, are not associated with demonstrable arterial lesions, although the mode of development suggests that there must be some functional vascular damage.

(4) After prolonged administration in guinea pigs a terminal attack of acute nephritis is frequently accompanied by more or less marked anasarca.

(5) Associated with the more severe kidney lesions there is frequently a more or less marked hypertrophy of the left ventricle of the heart.

4. From a careful experimental study Musser finds that splenectomy causes in the dog:

(1) Secondary anemia, lasting about two and a half months.

(2) A post-operative leucocytosis, most marked twenty-four hours after operation and lasting a variable time—longer, indeed, than these counts have been carried, one hundred and thirty-eight days.

(3) A total absence of eosinophiles from about the third to the eleventh week followed by an eosinophilia of a rather pronounced degree.

(4) A decrease and later an increase in the number of large mononuclears and transitional forms, the lymphocytes and polynuclears being proportionally increased and later decreased.

From these observations he concludes that on account of the secondary anemia, pronounced at times, and seen both in man and animals, the operation of splenectomy must be considered more seriously than it has been heretofore; at least, measures for the conservation of the general health of the patient and the regeneration of the blood must be kept in mind.

6. Dexter and Cummer comment as follows on the result of their serologic observations:

"Of the twenty-eight positive reactions which were altered by the addition of artificial amboceptor, eight were changed to frankly negative reactions and eight became plus-minus reactions, which could not be considered positive. Thus it is interesting to note that out of the seventy-seven serums observed, there were sixteen positive reactions (21.8%) which became either entirely negative or ambiguous and for practical purposes could only be considered negative.

"It seems justifiable to conclude that while the presence of a native antishcep amboceptor in human serum is by no means constant, it is essential to take note of its presence or absence in performing the complement fixation test for syphilis by the Wassermann method, and that if this precaution be not taken, a certain and by no means very small percentage of positive reactions will be recorded as negative. By following this simple method of controlling the reaction, this error will be obviated to a large degree."

7. From a series of elaborate blood-studies, Miller and

Reed reach the following conclusions relative to typical blood-pictures.

*Pulmonary tuberculosis.*—(1) The study of the leucocytes gives valuable information in the prognosis and clinical course of pulmonary tuberculosis.

(2) In diagnosis of incipient cases it is of no assistance but in differential diagnosis of whether more acute pulmonary lesions are due to tuberculosis or some other infection it is sometimes helpful.

(3) Arneth's differential neutrophile count is important in tuberculosis.

(4) In general, the following changes in the leucocytes occur in cases of pulmonary tuberculosis which are progressively doing badly or are in an exacerbation of the disease:

(a) A leucocytosis.

(b) An increased percentage of neutrophiles.

(c) A diminished percentage of small lymphocytes.

(d) A diminished percentage of eosinophiles.

(e) A marked shifting to the left of Arneth's blood-picture. Conversely, changes in the opposite direction in any of the above factors are favorable.

*Pneumonia.*—(1) Leucocytosis occurs as frequently in fatal cases as in those of recovery.

(2) This leucocytosis is due to the increased number of neutrophiles.

(3) When this increase of neutrophile is excessive a very severe infection is indicated.

(4) Arneth's differential neutrophiles count shows a constant shifting to the left in pneumonia, but it bears no relationship to the clinical course of the disease.

[R. M. G.]

#### INDIAN MEDICAL GAZETTE.

MAY, 1912.

1. \*REGISTRAR. *Surgical Work at the Prince of Wales' Hospital, Calcutta.*
2. BARRY, C. C., AND FENTON, A. *Notes on Early Tubercular Disease of the Cecum.*
3. \*SYMONS, T. H. *Surgical Cases.*
4. MILNE, C. *Vital Statistics.*
5. BAHADUR, R. W. N. B. *On Some New Anophelines of Calcutta and on the Seasonal Prevalence and Variations of Anopheline Fuliginosis of Calcutta.*
6. HOOTON, H. *Lambia Intestinalis and its Possible Connection with Poona Diarrhea.*

1. The author reports cases of hernia, joint affections, acute septic phlebitis of the spermatic cord, hydrocele, appendicitis, liver abscess, intestinal obstruction, vesical stone, kidney and gall-bladder affections, abdominal tumors, acute pancreatitis, pyloric obstruction and fracture of the patella.

3. Symons reports cases of popliteal aneurysm and hydrocephalus.

[R. M. G.]

#### THE PRACTITIONER.

JUNE, 1912.

1. \*OLIVER, T. *A Few Notes on Hemophilia.*
2. \*LETT, H. *The Treatment of Some Emergencies in Urinary Surgery met with in General Practice.*
3. \*MUMMERY, P. L. *Non-Malignant Stricture of the Rectum.*
4. HYSLOP, T. B. *The Intracranial Mechanism in Health and Disease.*
5. \*HALL, A. J. *How Far is Trauma a Possible Factor in the Production of Disease?*
6. SHAW, W. F. *The Treatment of Placenta Previa.*
7. DARDEL, J. *The Present State of Organotherapeutics.*
8. HURRY, J. B. *The Vicious Circle as a Cause of Sudden Death.*
9. PIKE, J. B. *When to Operate in Permeating Mastoid Meningitis.*
10. HARRIS, A. *The Prognosis of Diphtheria.*
11. ANDERSON, W. K. *A Case of Morphinomania Cured by the Hyoscine Method.*

1. This is a purely general article in which a man of wide clinical experience has given his general impressions of a most interesting condition.

2. Lett, in this paper, considers, in some detail, retention of urine, prostatic enlargements, prostatic hemorrhage and rupture of the urethra.

3. Mummery takes up non-malignant stricture of the rectum, congenital, spasmodic, fibrous and syphilitic, their pathology, secondary results, diagnosis, symptoms, palliative treatment and the various methods of operative treatment.

5. In considering trauma as a factor in the production of disease, Hall takes up trauma as related to mental diseases, meningitis, new growths, neurasthenia, paralysis agitans, tuberculosis, pneumonia and chorea. [J. B. H.]

# THE QUARTERLY JOURNAL OF MEDICINE. Vol. 5.

No. 19. APRIL, 1912.

1. \*COWAN, J., AND FLEMING, G. B. *The Association between Mitral Stenosis and Renal Fibrosis.*
2. FLEMING, G. B. *Triple Rhythm of the Heart Due to Ventricular Extrasystoles.*
3. \*WINDLE, J. D. *A Note on the Diagnosis of Sinus Arrhythmia.*
4. \*LEWIS, T., AND SILBERBERG, M.D. *The Origin of Premature Contractions.*
5. GRAY, H. T., AND PARSONS, L. *Blood-Pressure Variations Associated with Lumbar Puncture, and the Induction of Spinal Anesthesia.*
6. ABRAHAM, J. H. *Edema of the Orbital Tissues.* (With Plate 18.)
7. \*WARRINGTON, W. B. *Remarks on Syphilitic Pseudotabes, with the Record of a Case.*
8. LASLETT, E. E. *Sinus Arrhythmia of High Grade Induced by Digitalin.*
9. LEA, C. E. *Auricular Fibrillation Associated with a High Degree of Atrio-ventricular Block and Paroxysmal Tachycardia.*
10. \*COWELL, E. M. *Congenital Occlusion of the Duodenum.* (With Plate 19.)

1. Cowan and Fleming show that disease of the mitral valve and chronic interstitial nephritis are often associated, and that there is often a moderate increase in the systolic blood pressure which cannot be ascribed to the valvular lesion. An analysis of their tables, however, shows that only 6 out of 59 cases of all sorts of mental disease showed a blood pressure of 180 or over, so that marked interstitial changes cannot be regarded as very common in this condition. They state that out of their 15 cases of autopsies in uncomplicated mitral disease, in 10 the kidneys were found "more or less fibroid (capsules adherent, surface more or less granular)"; they do not record microscopical examinations. Slight changes in the kidneys and in the cardiac valves are so common that in the absence of accurate data the author's figures and theories cannot be regarded as very valuable.

3. In an interesting paper Windle calls attention to the fact that sinus arrhythmia is the most frequent cause of irregularity of the heart in children during convalescence from acute infectious diseases. The condition has absolutely no pathological significance. It can usually be distinguished from extrasystoles and partial heart-block by the fact that the irregularity is dependent upon respiration, the long pauses coming usually during expiration, and by the absence of enlargement of the heart. In some instances, and especially when the third heart sound is present, tracings may be necessary to show the presence of the characteristic "b-wave" and the absence of changes in conductivity.

4. In a large proportion of patients showing irregularity of the heart this is due to premature contractions arising either in the auricle or in the ventricle. Lewis shows that in such patients the electrocardiographic curves are constant in form over long periods of time, and in a given case show no variation from one observation to another. This he regards as very strong evidence that such premature contractions arise in a constant and limited focus of irritation. In six cases of premature ventricular contractions the curves fell into three groups, viz., (1) a form associated with the right side of the heart; (2) one associated with the left side of the heart; and (3) one associated with the auriculo-ventricular bundle. He regards it as prob-

able, but not proved, that in these cases the abnormal stimulus to contraction arose in the right and left stems of the auriculo bundle, and in the bundle itself, respectively.

7. Sometimes syphilitic spinal meningitis may closely simulate true tabes. Warrington reports such a case, and discusses the literature. The diagnosis is often difficult, but the early onset and the bizarre course, as well as sometimes the good results from anti-syphilitic treatment, are points in favor of the syphilitic affection.

10. Congenital occlusion of the duodenum is a rare anomaly, usually due to developmental error. In typical cases diagnosis may be made from the presence of vomiting setting in a few hours after birth, often in the form of hematemesis, while the meconium is normal. Usually the part of the gut near the papilla of Vater is affected. Operation is the only form of treatment indicated, but thus far has been uniformly unsuccessful. [W. T.]

## EDINBURGH MEDICAL JOURNAL.

JUNE, 1912.

1. \*BROWN, J. J. G. *Ataxia: A Symptom.*
2. \*GOODALL, A. *Acute Myelocytchemia Associated with Osteosclerosis and Other Unusual Features Occurring in an Infant.*
3. HENDERSON, D. K. *On Delirium Due to Bromide: with Notes on a Case.*
4. GARDINER, F. *Soaps and their Effect on the Skin: An Analytical Research.*
5. M'KENDRICK, A. *Insufficient Data as a Cause of Faulty Interpretation of Radiographs.*

1. Brown, in a long detailed and somewhat complex article, takes up ataxia as a symptom from the points of view of physiology, anatomy and pathology.

2. Goodall describes a case of myelocytchemia in an infant of ten weeks in which fatal termination occurred in three weeks, associated with osteosclerosis. On account of its rarity the case is of distinct interest. [J. B. H.]

## WIENER KLINISCHE WOCHENSCHRIFT. No. 22.

MAY 30, 1912.

1. \*SCHUT, H. *A New Classification of Pulmonary Tuberculosis.*
2. \*NEUMANN, W. *Employment of Immunity Research to the Clinical Aspects of Tuberculosis.*
3. OPPENHEIM, M. *Syphilis Exanthema after Salvarsan Treatment.*
4. V. FRISCH, O. *Congenital Metatarsus Varus.*
5. RÉTHI, L. *Severe Hemorrhages throughout Several Weeks after Removal of Hypertrophies of the Nasal Mucous Membrane.*
6. DANTWITZ, F. *The Recovery of the St. Joachimsthal Radium Bearers.*
7. STUELFELT. *Rejoinder to Eisching's Most Recent Expressions on Indicanuria and Eye Diseases.*

1. Schut proposes a new classification of phthisis, in which the disease is divided into obsolete, latent and manifest forms. The manifest form is again subdivided into proliferative and exudative, each of these into progressive and non-progressive, and the progressive into acute and chronic.

2. Neumann discusses at length the practical application of our knowledge of immunity to the active specific therapy of tuberculous disease. [R. M. G.]

## DEUTSCHES ARCHIV FÜR KLINISCHE MEDIZIN. BAND 106.

HEFT 3-4. APRIL, 1912.

1. FREUND, H. A. *Clinical and Pathologic Anatomic Investigations on Perpetual Arrhythmia.*
2. KURÉ, K. *Psychic Paroxysmal Ventricular Tachycardia.*
3. BERGEL, S. *Hemolysis Lipolysis and the Part Played by the Mononuclear Basophilic Cells.*
4. \*REISS, E., AND JUNGEMANN, P. *Treatment of Severe Scarlet Fever with Serum from Convalescents.*
5. \*EICHHORST, H. *Multilocular Brain Echinococcus Cysts.*
6. ROTH, O. *Hemolytic Anemia.*
7. RÖMHELD. *X-ray Picture of the Pericardium.*
8. BORCHARDT, L. *Blood Picture in Diseases of the*

*Glands of Internal Secretion and Its Relation to Status Lymphaticus.*

9. BORNSTEIN, A. *Remarks on the Measurement of Pulse Volume for Work by Müller and Weiss.*  
10. MÜLLER, O. *Answer to the Remarks of Bornstein in No. 9.*

4. Reiss and Jungmann report on a new form of treatment for severe cases of scarlet fever. The number of cases is small and it is always difficult to decide what case will terminate fatally until it does so, but they consider that their plan is worthy of a further trial.

Their method is to inject into scarlet fever patients the serum from cases just recovering from the disease. The injections should be made in amounts from 40 to 100 ccm., dependent upon the age of the patient, and should be given intravenously. It is desirable to inject the patient at least by the fourth day of the disease, and preferably sooner.

The serum is collected by bleeding at least three and preferably more patients about 100 to 200 ccm. of blood. From this blood the serum is obtained by centrifugalization. The patients should be bled in the third or fourth week of the disease and should have had an uncomplicated case. Of course they should be free from other diseases and the serum should be carefully tested to see that it is sterile, etc. The authors always advise the mixing of serum from at least three donors.

5. Eichhorst presents a case of echinococcus cyst of the brain. His case is very carefully worked up. In addition, he reviews very carefully the other cases of this rare condition which have been pointed out in the literature.

He points out the points of interest to the diagnostician and surgeon in these cases. [C. F., Jr.]

### Obituaries.

#### JAMES R. FAIRBANKS, M.D.

DR. JAMES R. FAIRBANKS, who died of pneumonia on June 14, in Amsterdam, N. Y., was born at Pittsfield, Mass., in 1842. He was a graduate of the Berkshire Medical College. In August, 1862, he volunteered in the Thirty-First Massachusetts Regiment, and served with that command throughout the remainder of the Civil War as hospital steward and assistant surgeon. At the close of the war, he settled at Amsterdam, where he continued in the practice of medicine until his death. He was consulting surgeon to the Amsterdam Hospital, a member of the American Medical Association, of the American Association for the Advancement of Science and of the Montgomery County Medical Society. He is survived by one daughter.

#### EDWARD FIELD PARSONS, M.D.

DR. EDWARD FIELD PARSONS, who died of cerebral hemorrhage on June 13, at Thompsonville, Hartford County, Conn., was born in Enfield, Conn., on Nov. 2, 1833. He graduated from Williams College in 1854, and in 1858 received the degree of M.D. from the New York College of Physicians and Surgeons. He first settled in New York City, but in 1864 returned to his native town, where he continued in the practice of his profession until his death. In 1887 he served as a member of the Connecticut State Legislature, and was for many years medical examiner for the town of Enfield. He was thrice married and is survived by his widow.

### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, JUNE 8, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	16	2
Chicago.....	618	—	Waltham.....	7	—
Philadelphia.....	—	—	Brookline.....	5	—
St. Louis.....	—	—	Chicopee.....	9	—
Baltimore.....	—	—	Gloucester.....	7	—
Cleveland.....	—	—	Medford.....	4	—
Buffalo.....	—	—	North Adams.....	7	—
Pittsburg.....	—	—	Northampton.....	7	—
Cincinnati.....	—	—	Beverly.....	2	1
Milwaukee.....	—	—	Revere.....	0	0
Washington.....	—	—	Leominster.....	3	1
Providence.....	—	—	Attleboro.....	2	0
Boston.....	208	55	Westfield.....	4	—
Worcester.....	42	14	Fenbody.....	—	—
Fall River.....	37	15	Melrose.....	7	1
Lowell.....	38	13	Woburn.....	5	1
Cambridge.....	23	1	Newburyport.....	5	2
New Bedford.....	24	8	Gardner.....	2	1
Lynn.....	16	6	Marlboro.....	2	0
Springfield.....	18	4	Clinton.....	6	—
Lawrence.....	24	12	Milford.....	—	—
Somerville.....	19	8	Adams.....	2	1
Holyoke.....	15	6	Frammingham.....	—	—
Brookton.....	15	2	Weymouth.....	—	—
Malden.....	—	—	Watertown.....	3	0
Haverhill.....	10	1	Southbridge.....	2	1
Salem.....	10	2	Flymouth.....	—	—
Newton.....	7	2	Webster.....	4	1
Fitchburg.....	5	1	Methuen.....	—	—
Taunton.....	14	2	Wakefield.....	6	3
Everett.....	10	8	Arlington.....	2	—
Quincy.....	—	—	Greenfield.....	2	1
Chelsea.....	6	2	Winthrop.....	5	—

### APPOINTMENTS.

DR. LORING B. PACKARD, of Boston, has been recently appointed surgeon-in-chief at the Brockton (Mass.) Hospital.

DR. JOHN HOMANS and DR. DAVID CHEEVER have been appointed surgeons to the Peter Bent Brigham Hospital in process of construction adjoining the Harvard Medical School.

### OPENING.

OPENING OF THE NEW PSYCHOPATHIC HOSPITAL, BOSTON. — The Trustees of the Boston State Hospital extend to physicians of the state an invitation to inspect the new Psychopathic Department on Friday, June 21, 1912, from 3 to 6 o'clock. This department is at 74 Fenwood Road, Boston, and can be readily reached by Huntington Avenue or Chestnut Hill-Brookline Avenue line cars, alighting at Fenwood Road.

### RECENT DEATHS.

DR. JEROME HILTON WATERMAN, a well-known orthopedic surgeon of New York, died on June 9, at the age of forty-one years. He was a native of London, Ontario, and was graduated from Harvard Medical School in 1898, after which he served as interne at the City Hospital, Blackwell's Island, New York. Dr. Waterman had been for some years assistant surgeon to the Hospital for Ruptured and Crippled, and shortly before his death was elected president of the Harvard Medical Society of New York.

DR. BEVERLY MACMONAGLE, of San Francisco, who died at Paris on May 22, was born in 1854. He received the degree of M.D. from the Harvard Medical School in 1876 and was an Honorary Fellow of The Massachusetts Medical Society.

DR. SIR WILLIAM THORNLEY STOKER, Bart., who died on June 1 at Dublin, was born in that city in 1845. He received the degree of M.D. from Queen's College, Galway, in 1866, and in 1878 became Fellow of the Royal College of Surgeons of Ireland, of which he was president from 1898 to 1896. From 1904 to 1906 he was president of the Royal Academy of Medicine. He was knighted in 1895 and made a baronet in 1911. He was a widower and leaves no heir.

DR. ALFRED PRIEBRAM, professor of pathology at the University of Prague, Austria, has died recently at the age of seventy-one.

### BOOKS AND PAMPHLETS RECEIVED.

Essays on Genito-Urinary Subjects. By J. Bayard Clark, M.D. William Wood & Co. 1912.





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Lab. Bulletin  
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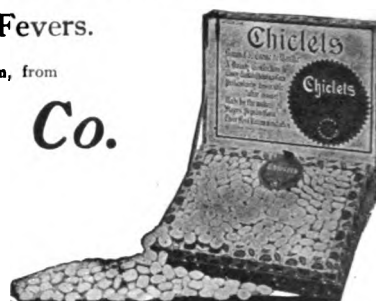
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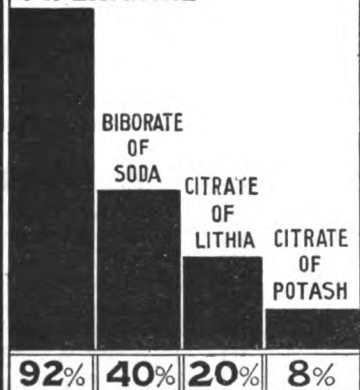
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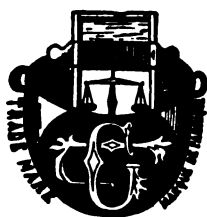
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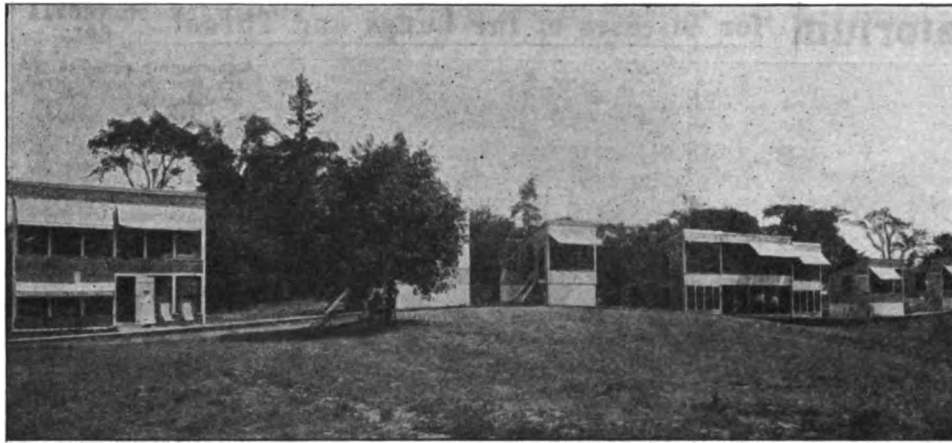
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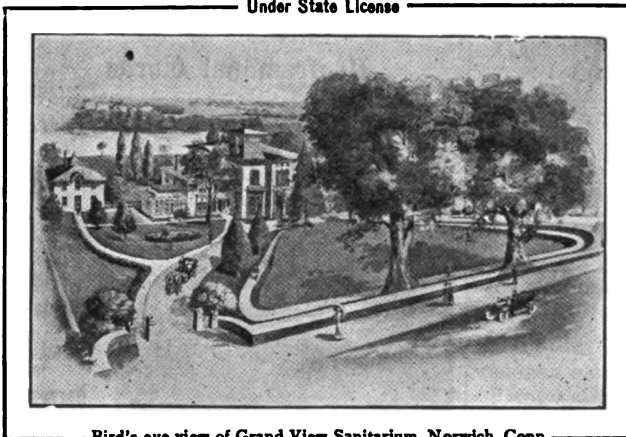
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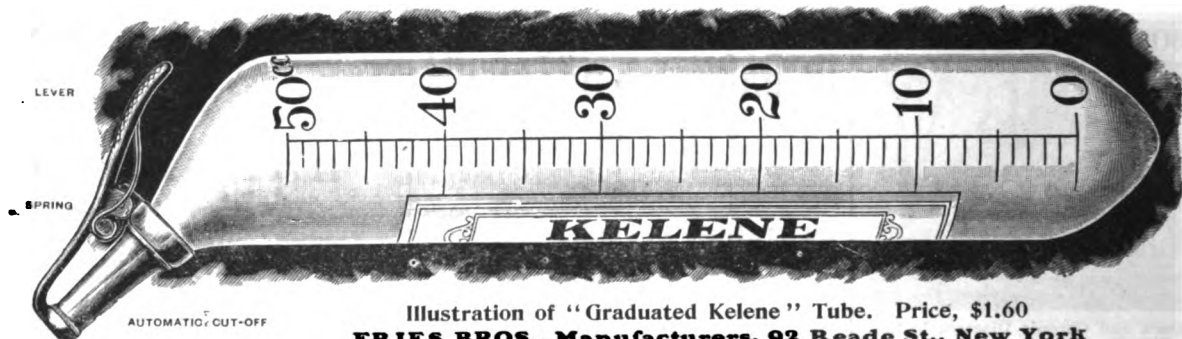


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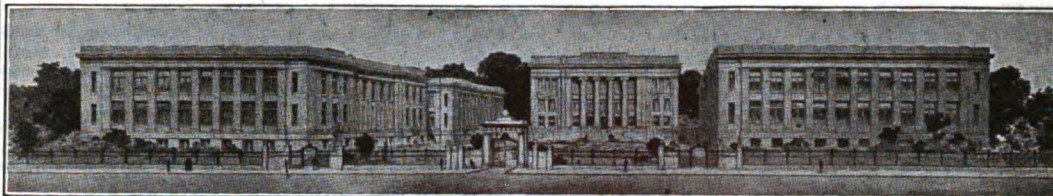
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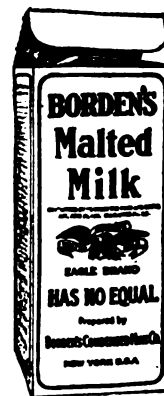
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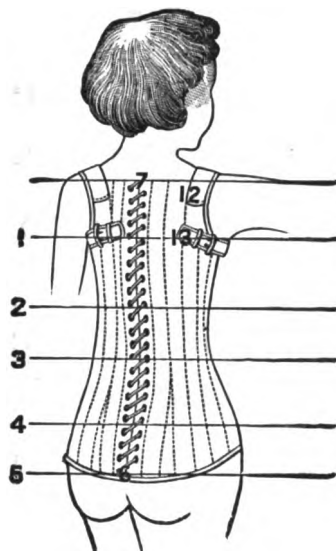
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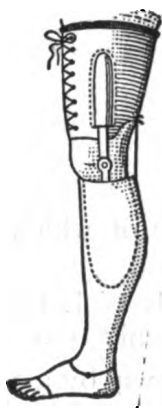
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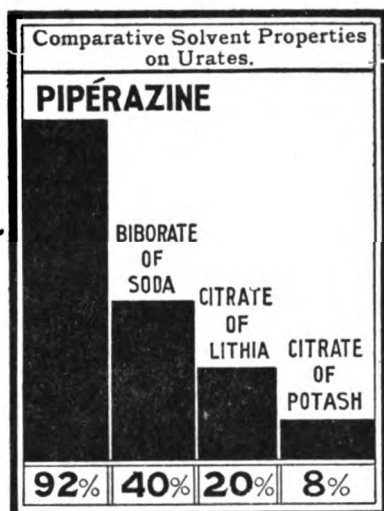
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## Address.

## EXPERIENCES OF A MEDICAL TEACHER.\*

BY W. T. COUNCILMAN, M.D., BOSTON.

WHEN you bestowed upon me the honor of an invitation to address you to-day, it was probably because you thought that in the course of a life, more than thirty years of which have been devoted to study and teaching in medicine, I should have formed certain conceptions of study and teaching which were based on a long experience and which might have some value to the young men before me who are in the beginning of their medical career. Some of these conceptions I shall endeavor to impart, but of their value I cannot judge. Experience is, after all, a long process of observation; concepts are formed early and constantly undergo correction as the field enlarges and deepens; they are of undoubted value for the individual who forms them, but of much less value to those to whom they are told. Experience cannot be transmitted, and another with the same field of observation may form other and more correct concepts.

I shall take up to-day for chief consideration that part of my life which has been devoted to teaching, and the subject naturally breaks up into several parts all closely connected. The first concerns the material on which our efforts are expended, the character of the soil which we seek to till. Let us first endeavor to form some judgment of the effect of the tillage of the soil previous to the time when we in the medical schools take up our tasks. In these past years I have had under my hands a large number of young men at an average age of twenty-three. During a considerable part of the time they were divided into those who had passed through college and had acquired an A.B. degree and those who entered the school after fulfilling certain more or less indefinite entrance requirements. Harvard having required the A.B. degree as a condition for entrance into the medical school since 1900, my experience has been more extensive with students with the degree than with those without it. On the whole, the A.B. men are better than the men without the degree. In judging of the effect of the college training, one cannot say offhand that the better material which comes from the college is entirely due to the training received there. The college has a certain advantage in that its material represents a selection. It embraces the congenital rich; others, whose immediate forebears by energy and thrift have accumulated means sufficient to give their sons a college course; and a large number of young men who go through college depending upon their own efforts for the means. There are differences in the environments of the three classes, so many advantages and disadvantages connected with each, that I am not sure whether it is better for a young man to select his great-grandfather to meet his college expenses, or place the burden upon the thrifty father or depend upon his own efforts.

\* Address delivered at Syracuse University, June 11, 1912.

From all these classes come men who on the whole are rather better than the men who have not had sufficient means, or, in the lack of this, sufficient will and energy to put themselves through college.

As I look back upon my life, and the friendships I have formed through it, many of my friends having been successful, I find that a large proportion of them have not had the college degree. It must be remembered, however, that the attainment of the college degree is becoming progressively more easy and that most of these men at the present would have gone through college.

With the view of estimating in actual percentage the advantages of the college degree, I made for a number of years a comparison of the standing of the men in my course who had or had not the degree. This was previous to the year 1900 when the degree was demanded for entrance. The men were rated by the result of the written and practical examination at the end of the course, by the character of their laboratory work, as could be deduced from daily observation, and by means of the weekly recitations. Comparison of different years came out very evenly, and the general result showed a difference of between four and five per cent in favor of the college degree. There was little difference in the best men whether they had or had not the degree, but the average was cut down by the very poor men who were most numerous in the class without the degree. Of course, such an inquiry gives very crude results which are of little value. To be of any value, the inquiry should extend over a much longer period. A college training should give much more than an ability to accomplish certain tasks more easily. This may be accomplished by acquiring methods of study and power of concentration both of which come with practice.

In the course of a further and more extensive inquiry, I divided the men with regard to the character of their studies in college, taking also the character of their college into consideration. The inquiry extended over a sufficient number of years and embraced sufficient individuals to make the results of some value. From this inquiry it was evident that the men who had devoted a considerable part of their time while in college to the study of science averaged distinctly higher than the men whose studies were along more classical lines. The character of the scientific studies made no difference, the most important thing being the training in observation and judgment which such studies gave. Little resulted from a comparison of the colleges; the small and the large colleges seemed to be about on a par, but I have often been able to see in some of the best students the effect of the teaching of some particular professor. One thing came out regarding the colleges which was of distinct interest, namely, that the students from strictly ecclesiastical colleges had lower grades as compared with the others and their average was even less than that of men without a degree. It is difficult to avoid the conclusion that a certain

variety of collegiate training may be a detriment rather than an advantage. Saints do not seem very well to look after the colleges which bear their names, or they may possibly resent such colleges being used to provide secular education. It is also true that we should not blame the saint, for with few exceptions what can be gleaned from history would lead us to infer that saints have at best but a very imperfect idea of education. I have amused myself by extending this statistical inquiry in other ways, one result being to show that the men with names in the first half of the alphabet are slightly better than those in the last half, but possibly in this inquiry I may have had a personal bias. I have also been much interested in the individuality of classes. Classes as a whole are always different; as one looks at them in the lecture the composite expression differs, the laboratory work differs and the relations which one forms with the class as a whole differ in different years. I think that this is due to the effect of a few men in the different classes who give the class its tone.

I have been impressed with the evidence which college men often present of a lack of thoroughness in the instruction they have received. This lack of thoroughness is not so evident in those who have had some training in science. Not only are they incapable of close and accurate observation, but they show a singular lack of facility of description. This comes out strongly in some of the exercises of the course in which the men are required to study under the microscope preparations of diseased tissue with which they are not familiar, and to give simple written descriptions of the conditions present. I must maintain that educational methods are extremely imperfect if a New England boy at the age of twenty-three has so little power of observation, combined with such deficiency of curiosity, that he cannot recognize an American elm at sight, and this is often the case. I often use a tree which stands across the street from the laboratory as a test of educational methods. The lack of thoroughness in collegiate training is apparent also in regard to languages. Men who have devoted two or more years to the study of French or German have acquired no facility in the use of these languages. From my acquaintance with German students and with German universities, I have been able to make some comparisons between their methods of education and ours, and there seems to be much in favor of the German methods. Their method is undoubtedly much more thorough than is ours. Much more is demanded of the student of a corresponding age not only in the scope of work, but in the thoroughness of accomplishment. During the past year while visiting a friend in Germany, I had the opportunity of seeing something of the German method at close range. The son, a boy of fifteen years, who was shortly to enter the gymnasium, spent in school thirty-four hours weekly, this including two hours of field work and two hours of religious instruction. In addition to this, he worked two hours daily in the evening. In

the gymnasium the drill is fully as strenuous, and when the boy leaves this to enter the university he is two and a half years ahead of the American boy of a corresponding age, and his education has been conducted along rigid lines and is thorough. This rigid system of early education is a part of the rigidity of German life which has affected everything but the university. With the entrance of the student into the university everything is changed, for there he finds the utmost freedom in choice of subject, of method and of teacher. With us the conditions are reversed; we give a great deal of freedom in our rather loose early education and apply the rigidity later, for in our university work, certainly in medicine, there is a rigidity of curriculum which is unknown in Germany. Whether there is any compensating advantage in the laxity of our early education, in the preponderating influence of athletics in our colleges which theoretically have an importance in teaching co-operation and in giving that training in mind and body which enable unforeseen conditions quickly to be met, seems to me uncertain. We give up to the advantages of our system two and a half of the ten most valuable years of life. Theoretically, the German system should tend to lack of independence of view, to a too ready acceptance of authority, but there is no evidence of this to be seen in German work. The German readily accepts authority outside of his domain of thought, but there he demands absolute freedom. With us there is a general but lax disregard of authority; our students will submit to the exercise of utmost authority in matters in which there should be the utmost freedom. The outside control which has been occasionally evident in American universities, and exercised in the limitations of freedom of teaching, of thought and expression, would be submitted to in a German university by neither the student nor the teaching body.

From this rambling talk it must be evident that I am very uncertain what should be demanded of a student as a fitting preparation for medicine. A college degree certainly seems to give advantages which are definite enough to be expressed in percentage, but there must be uncertainty as to whether the increased percentage is due to the college or to the better general average of the men who seek the college. It is of advantage that the student should have had training in some science which would enable him to acquire the scientific method. I have also found that the student is greatly assisted by having acquired some facility in free-hand drawing. Drawing is after all but a mode of expression; it helps enormously in accuracy of observation, and by a drawing the student often can convey his conception of an object more accurately than by writing. With the rapidly advancing loss of a decipherable caligraphy, some substitute for writing must be found. On the whole, there is no doubt that the entire medical curriculum will be made easier for the student and he will derive more profit from his work if he has acquired proper methods



of work, and these methods can be learned in any science, but preferably in some biological science.

The next matter concerns the end sought in the medical training. The time has arrived in medicine when knowledge can be substituted for conjecture. The relief of disease is dependent upon a knowledge of the conditions of life in the diseased individual, and this knowledge can be obtained only from the study of the sick individual. We use in this study the senses, and methods and instruments which extend them. Only those of us who have participated in the medical life of the past forty years realize how great has been the change in the medical point of view, brought about by the enormous increase of knowledge of disease. Forty years ago it was possible for the student to acquire a fairly comprehensive knowledge of medicine. The essentials in anatomy, in physiology, in pathology and in clinical medicine could be learned, the clinical methods were simple, and there was not the present dependence upon them. There was but little known as to the cause of disease, and the acute infectious diseases which are now so well known were in the same category in which many of the chronic organic diseases are at present. Indeed, at that time typhoid fever was not as well understood as chronic renal disease is now.

It is possible to name the directions in which knowledge has most advanced: In parasitology, which has taught us the causes of the infectious diseases, and in many cases what is more important, the manner of infection and the mode of avoidance; in the knowledge of the subtle changes in the blood serum which underlie immunity; in the knowledge of the function of the ductless glands and the part which they play in health and disease; in the great increase of knowledge of the anatomy and pathology of the nervous system; lastly, the more thorough knowledge of the chemical processes which take place in the body. There has been some attempt to give to the student all that is new in addition to the old. The teacher in any department of medicine is confronted with masses of facts which he feels that the student must acquire. It is true that the period of medical study has been lengthened and the lengthening has not been completed, but the attempt to place the student in the same relation to medical knowledge which was possible forty years ago is fruitless. The object to be attained in medical education is a training which will enable its recipient to be of service to the people in relation to disease. There are certain fundamental facts which have in medical education the same relation as have the three R's in the child's training, and these must be possessed of, but further than this the student must have the training and the methods of acquiring knowledge. Disease, as the practitioner comes in contact with it, affects not classes but individuals, and the individual case of disease will always be for him a problem to be investigated. The mere matter of diagnosis as far as naming the pathological process and ascertaining its situation is concerned may be regarded as comparatively

easy, although every pathologist is aware of the number and importance of the mistakes which are made in this. As a result of disease, certain conditions which bring about functional disturbance are produced and life goes on under conditions which differ from the normal. One of the distinguishing criteria of living matter is its variability, of which individuality is the expression, and in consequence of this the result of the abnormal environment of disease must differ in every individual. The knowledge of disease in the individual, on which rational procedures of relief are based, cannot come from previous experience nor from the experience of others, nor from generalizations, but must be deduced from the investigation of the individual case, and in such investigations methods which aid the senses are of paramount importance. The student must have become familiar with methods by constant exercise in them, and he must have learned through the work of his teachers respect for and dependence upon knowledge. The full recognition of the individuality of disease, carrying with it the necessity of detailed investigation of every case, is the most important general conception of disease which has been arrived at. Diseases with the appropriate remedies cannot be tagged and placed in pigeon holes. It is possible to think of conditions in the individual which might modify the use of such therapeutic measures as we have even in malaria, diphtheria and syphilis. Can we so educate our men that we can turn out on the one hand good practitioners and on the other, men who are investigators, teachers and skilled in research? I deny both the possibility and the desirability of such a distinction. It is wearying to hear research spoken of as though it were a special calling demanding special methods, a special order of mind and a special environment for its prosecution. In medicine research is but the investigation by the methods of science of the problems presented by disease, and the practitioner in his daily calling is as truly engaged in research as the laboratory and hospital worker, even though he may not feel it incumbent to publish his results. The whole result of medical education should be to enable the graduate to continue to seek knowledge by scientific methods.

The practitioner will need other than medical knowledge, but it is doubtful if any process of education will give it to him. He must consider not only the sick individual, but the family, and the entire environment, and in this regard his services may be of greater importance than to the case. Disease is an important element in sociology, and certain diseases such as tuberculosis are probably more closely related to social conditions and as a class are rather to be met by social than medical measures. It is impossible for the medical man to cope fully with the duties he has assumed unless in addition to his medical training he has knowledge of the nature of man and the wide sympathy which such knowledge should bring. As I have been writing the last few pages, I have endeavored to recall to my mind the great physicians whom I have known, some through their

work, others personally. Some have been teachers and writers who have exerted a wide influence, some have been active practitioners in a narrow environment beyond which their name and fame has not extended. But there is this in common: they were all of them investigators; they sought definite knowledge of disease as a basis for treatment; and they are all men of wide human sympathies.

After this dissertation on the object of medical study, which seems to me as vague as the part relating to the student, I must come to the third part, — that relating to the methods of teaching, which I fear will also be cloudy. Provided certain things are held prominently in view, there can be wide variation in methods. No two schools can be alike, since each is founded upon the individuality of the teaching body and the facilities for teaching which it possesses. There will be certain men of surpassing influence in one school and in one department, and in other schools some other department will be equally strong. It is not in the interests of medical education that all schools should be poured into the same mold.

I am still one of those who believe that teaching is a calling which, if engaged in, should be the paramount interest in life, — that it is a responsible, serious and noble calling. I regret the tendency which seems to prevail of rather disregarding teaching as a career. I have become aware of this in several ways. From my laboratory large numbers of young men after serving as assistants for a couple of years have taken positions elsewhere. In the inquiries from other institutions for men, the ability to teach is seldom inquired into, or at least little stress is laid upon it in the list of accomplishments demanded for small pay. The young men themselves in seeking positions make very definite demands as to the hours which are to be devoted to teaching. Their ideal seems to be a life devoted to research, — a perfectly proper ideal, but why not research with and through teaching? Teaching should not interrupt research, for student and teacher should seek knowledge together, and even teaching involves so much of the unknown that to engage conscientiously in it is a form of research. There is too much tendency to regard research and publication as synonymous. It is a laudable ambition to be known as a contributor to medical knowledge, and while teaching may impede publication, it is, if properly pursued, a stimulus to research. There are rewards which come to the teacher alone. Who cannot remember certain teachers who have exerted an influence lasting through life, and these, as models, are always before us.

Since medical education consists essentially in training in methods, study in the laboratory and hospital wards have largely superseded the old methods in which the lecture and notebook played the prominent part. I say the lecture and the notebook, meaning the association of the two, for the notebook in which the student records his observations is still an impor-

tant instrument of education. In the past years there has been an enormous extension of study in the laboratory. Much of the increased length of the curriculum has been used up by an increase of the time given to laboratory study in the so-called medical sciences. It is not impossible that too much time is given to these subjects. In the old schools, for instance, anatomy was more essential than it is to-day, for it was in the dissecting room only that the student studied the material and received some training in scientific methods. In physiology the student in addition to the lectures and demonstrations carries out certain experiments himself, and the same methods of study are used in pathology and practically in all the departments. With regard to the importance of the lecture, opinions vary widely. I have always used the lecture method to a considerable extent, and I think it is of value provided we have a clear idea of what the lecture should aim to accomplish. However good may be the descriptive power of the lecturer, however able he may be in interesting his audience, it is useless to attempt to give in a lecture information on a complex subject. For instance, I doubt if it would be possible for a lecturer, taking a group of men of the average intelligence, but coming from a world in which there were no trees, to enable them in an hour to form such a conception of an oak or elm that they could go out from the lecture and instantly recognize such a tree. I have arrived at this view from personal experience which may not be complimentary; I have endeavored to ascertain from students before whom I had lectured on a topic in which I was certainly interested, and they *seemed* to be, how much correct information they had acquired, and have found it surprisingly small in amount. I think that the lecture has a distinct place in expanding and correlating knowledge which the student has already acquired. It should also convey a stimulus to the student, and the lecture hour should form an agreeable interruption of the laboratory work. Unless the student can gain in the lecture mental recreation and stimulation, the lecture had better be left out were it not for the aspects which are not usually regarded as among its assets. One is its power of inducing gentle, refreshing, noiseless sleep in the audience, and the other is the educational value of the lecture to the lecturer. To one who is a poor sleeper there comes a great satisfaction to see sleep descend upon an audience. The lecturer experiences an exhilaration at the demonstration of the possession of a power which makes him akin to the God "who giveth his beloved sleep." I lay stress upon the condition that the sleep shall be noiseless, and position makes lecture room sleep usually of this character. I remember once on an occasion such as this of being really disturbed at the noiseless apoplectic sleep of the worthy man who had invoked the deity. With regard to the second point, how often the crudity of an idea becomes strongly apparent when the attempt is made in the lecture to convey the idea to others. How often have I seen a *cul de sac* rise

before me into which I was on the verge of a headlong plunge! How eagerly is a friendly alley availed of as a means of escape! The teacher should find in the lecture a means of clarifying his knowledge, and in the stimulus of lecturing very often new and useful points of view present themselves.

Next to the lecture in ascending value comes the demonstration, also a method of value, but of over-rated value. It is possible to gather a few men, not more than ten, around certain objects, point out the essential things, and enable them to see them as does the demonstrator. Such a demonstration can also be made the basis of an informal talk, and questions can be asked, but at the best it is little more than a projection of the ideas of the demonstrator.

The real work of the student is in the laboratory, for this, as its name implies, is the workshop. In this he should find apparatus and material for study and an arrangement of light and space which facilitates study. Light and ventilation should be carefully provided, for they affect greatly the character of the work. One hears something said about the advantages of the laboratory as providing elbow instruction for the students. In my opinion, elbow instruction is to be avoided. In the laboratory, the student has the material for study, his study can be supervised and directed, but the knowledge he obtains must be first-hand knowledge and come to him from the material. I hold that it is better for a student to work for an hour over the solution of a question which presents in his work than to have an explanation which may possibly be given in a minute. In connection with his laboratory work the student should be encouraged to read. Text-books should be accessible in the laboratory, and a well-chosen library near at hand. He should be referred to classical original articles on the subjects of study. There is a wonderful freshness in an important original communication, and a stimulus is conveyed through the written page. Students differ greatly in the profit and pleasure which comes from reading of this sort. They are too apt to think that their work consists in acquiring facts. Facts there are, and they must be acquired, but the process of acquiring is very indirect, and the most important facts are always those in the distance. I have often thought it might be of advantage to substitute the reading of original work for the lecture. In the selection of reading for the students it is interesting to find how generally one chooses the early work of an author, something written under the spell of youth. There is a freshness, a directness of expression in early work which is not so evident in the later. In the beginning of laboratory work the students may require considerable help and supervision, but after a few weeks this is no longer so. I have found it convenient to divide the large class in the laboratory into smaller units of ten students. The demonstrations are given to these units, and they go to the hospitals to attend and assist in the autopsies. To a certain extent each unit works indepen-

dently, for each brings from the autopsy material for further study. In this way the men help each other in their work, and each profits to a certain extent from the work of his fellows. I have not favored recitations from textbooks, and have substituted for this an exercise which is held weekly, and consists in the study and description of microscopical specimens which are unknown. The papers are criticised, marked and returned. This constant criticism enables the student to place himself; he sees whether or not he is progressing, and in what direction he should improve.

I have always used the experimental method to some extent, and during the last year to a much greater extent than before, and with advantage. Each unit carries out in turn, and under supervision, certain experiments on anesthetized animals. The experiments mainly relate to inflammation, to the circulation, to the infections and include certain experimentally produced organic lesions. Each experiment is closely related to the subject which is being studied at the time, and the results are demonstrated to the entire class by those conducting them. The experiment clarifies, from the complex factors of disease single ones can be selected and their effect studied. How much simpler to show on an anesthetized animal what happens in increased pericardial pressure; to show the variations in an infection depending upon the route; to show the structural with the functional effects of an organic disease; to show the stages in the production of a lesion, than, without the experiment to describe, to demonstrate or to study the mere products of disease. Such experimental work demands space and facilities. It must be carried out with dignity and with the high conscientious regard for animal suffering which will compel its avoidance. Students can also be encouraged to carry out on each other certain harmless, interesting and instructive experiments on the circulation.

In speaking of teaching, I have of necessity thought more of my own subject, but I do not believe that there is any real difference in the method to be pursued in teaching any branch of medicine or, indeed, any branch of science. It seems, however, so much easier to give the student facts, or rather those concepts which we form and in our vanity regard as facts, and to fill up the vacant places of his mind with *our* knowledge as a bucket is filled with water, but such a process is not education.

And now a few words especially directed to the young men before me. You have *not* completed your studies, you have acquired some knowledge and, more important, you have acquired methods which will enable you to go further. The reputation of your school, the facilities for study which it affords and the character of your teachers is a guarantee that you have had the opportunities. You are about to enter upon a life which will bring you into intimate relations with all the aspects of the complex conditions of disease. You will come in contact with humanity in its best and its worst aspects, for disease strips off the

conventional outer covering, and the moral nature is laid bare. You will see depths of selfishness and, on the other hand, supreme sacrifice of self for others, such as no other calling will reveal to you. You are entering upon the most altruistic of professions, one in which the best efforts of its members are directed toward the physical and moral betterment of the race. If philanthropy be evinced in deeds of practical beneficence towards the race, then Jenner, Pasteur, Koch, Reed, to mention a few names only, have been the greatest of all philanthropists. This form of philanthropy is open to *you*, there are numbers of questions awaiting solution by *you*, and the knowledge which *you* may give the world may be of inestimable benefit. The world knows as the philanthropist only him who gives money out of his superabundance, which is, after all, a most uncertain way of conferring benefit, but the only one which is open to many, and which most of us think is not availed of to a sufficient degree. However, you need not concern yourself about this form of philanthropy, for it is almost impossible that it should come in your way to exercise it. You must make up your mind in the beginning that your life is going to be arduous, that there are few prizes, that the road to even that degree of financial success which will enable you to establish a home and family in comfort is now and is becoming increasingly difficult. One of the reasons for this is that disease as it affects the masses is being recognized as the chief of the social problems. This recognition is seen in the growing provision of hospitals and dispensaries, in the pure food laws, in the wider extension and increased efficiency of the work of boards of health. Such work will not diminish, but will increase. Tuberculosis is being more and more removed from exclusive medical care, and the success which has attended the modern methods of caring for it will be extended to other disease. The medical inspection of schools and factories are social measures and diminish the importance of your efforts, which concern chiefly disease in the individual. This is an age in which increased efficiency of effort is being sought in every direction, and there is a great loss of effort in the practice of medicine. In spite of all this, one of your duties will be to so educate the public with which you come in contact, in knowledge of disease and of the factors causing it, that social measures can be made more effective. As an offset to the fewer individual patients which the future will bring, there will be increased demand for physicians employed in a public capacity, an increasing number of medical positions in institutions of various sorts will have to be filled.

In your outlook on life be optimistic. There may be some germ of truth in the idea that optimists, like poets, are born and not made, but optimism is more easily attained than is the poetic faculty. A man is an optimist or a pessimist according to his vision, for, contrary to the adage which implies a distrust in vision, "Things are always as they seem." If you do not possess optimism, acquire it, for there can be moral as

well as religious conversion. There is much good in the world, rather more than evil, but possibly not so obvious without vision trained to recognize the good. You can go through life with the environment of a stony desert, or you can walk through green fields, and hear babbling brooks and the songs of birds and the voices of children at play, and rest in the shade of mighty trees by the banks of rivers, all depending on whether you see good or evil.<sup>1</sup> Do not be afraid of the future; trust your own powers. It is a great thing to know, and you may accept it, for it is true, that success comes to the individual who under all circumstances does his best; and one will always do his best in that work which gives him the most joy in the doing. There is no criterion for success and reward, for both depend upon the point of view. There is an abundance of work to do, and room in the world and food and water and raiment for the honest worker, and the greatest happiness lies in work.

"Little do ye know your own blessedness; for to travel hopefully is a better thing than to arrive, and the true success is to labour."—R. L. S., "El Dorado."

## THE TECHNIC OF TRANSFUSION.

BY EDWARD H. RISLEY, M.D., AND FRITS C. IRVING, M.D., BOSTON.

(From the Laboratory of Surgical Research, Harvard Medical School, 1911-1912.)

So much work has been done within the past three years on the technic of transfusion of blood, and so many clever and useful devices invented, with the aim of simplifying the technic for the general surgeon, that it seemed advisable to the authors to go very carefully over this work and to make, if possible, a final determination of that method which, under all general conditions, would be most simple and most likely to be uniformly successful. The devices have been numerous and some have presented unusually attractive features, but most of them are open to the objection that in one way or the other they are too complicated. The operation of transfusion to be uniformly successful and not undertaken with hesitation must be done by a method which is simplicity itself, and not by a method which requires unusual skill. As conditions are to-day, it is only performed successfully by men with especial skill in this line. To be a therapeutic measure of the greatest success, it should be able to be readily accomplished by any operator.

<sup>1</sup> On critically reading this, the writer feels that some further elucidation is necessary. Of course, it is possible for a man to create about himself a fool's paradise in which he may dwell in happy contentment. He can quickly create such an environment by well-selected stages of alcoholic intoxication. The great trouble comes with the voluntary selection of optimism as a career. To most men, evil becomes deterrent by its exhibition in others. Thus, to the pure in heart, vice by demonstration is made abhorrent; to earnest, sober men, drunkenness is unattractive, and an agent at times so useful as is alcohol may be totally condemned. Although some may temporarily cover themselves with a cloak of optimism, using it as the wolf used the sheep skin, the only genuine and constant optimists are the beneficiaries of a protective tariff, syphilitics in the early stages of general paralysis, some successful clinicians, who turn to financial use their God-given intuitions of disease, and some presidents of colleges. The revelations of optimism which one gains from these sources makes the state of mind seem unattractive. But on the other hand if the world as seen seems good don't change your glasses.

For our work dogs have been used, because the arteries and veins more nearly approximate the human in size, and in very small dogs vessels the caliber of those liable to be encountered in infants are to be found.

In previous blood vessel work by one of us (E. H. R.) the same question was discussed and the conclusions arrived at by Hubbard and Kimp-ton,\* as to the efficiency of the Elsberg cannula were agreed with.

The present work has also shown that, in so far as purely mechanical metal devices go, this admirable little adjustable cannula is still the best. It far surpasses the original and modified Crile cannulae and any of the many devices invented by other ingenious workers.

Among these may be mentioned:

(1) The modified Crile cannulae of Buerger or Burnheim, with the long handle for convenience in handling and the three equi-distant prongs over which the vessel walls could be hooked and held. (Fig. 1.)

(2) The dogs' carotid proposed by Frank of New York, and discussed in a previous paper (E. H. R.)\* which gives great length of connecting surface and room in which to work, and which is entirely feasible but not possible to have on hand at a minute's notice without considerable previous preparation.

(3) The modified Crile cannula of Hepburn, which has a perforated plate attached to the cannula, through which the stay sutures are threaded and securely tied and adjusted.

(4) The male and female hemicylinders with spring arms and fixation posts of Janeway, which insures the proper apposition of intima to intima and should be easy of application. (Fig. 2.)

(5) And the similar but less easily applied cannulae of Soresi. (Fig. 3.)

All these devices have several definite objections:

Difficulty to sterilize, and requirement of especial skill in manipulation. They must be made by skilled instrument workers at considerable cost and cannot be quickly and easily adjusted. Each, it is true, has definite points in its favor, but on the other hand has equally marked points of disadvantage and we are sure can all be discarded for what we believe we have demonstrated is the safest and simplest and most reliable method, namely, that with glass tubes.

So simple is the manufacture, preparation by paraffine coating and use of these glass tubes that we do not hesitate to recommend them as being far ahead of any of the other more complicated devices proposed, but also by far the most satisfactory for all around transfusion work, either by the artery-to-vein or vein-to-vein method, both for adults and infants, and for the experienced as well as inexperienced operator. A nest of tubes can be blown in a very short time by any one used to glass blowing, or even by the inexperienced; the paraffine mixture, which consists of paraffine 2 parts, petrolatum 2 parts and

stearin 1 part, can be obtained at any drug store, and if this, with the tubes, is kept in a small copper box, the tubes can always be on hand for immediate use.

When it is desired to use them, the tubes may be boiled up with the operator's instruments in a separate cloth, the paraffine next heated to boiling in the copper box over a flame, the tubes dipped into the hot paraffine, taken out with forceps and tilted back and forth to allow the excess of paraffine to run off, thus coating them very thinly, both inside and out. Any excess at the end of the tube is touched off with sterile gauze and the tube is then ready for use. This particular paraffine mixture does not fleck off or crack, and blood can be run through it for at least one-half hour without any signs of clotting. The tubes are easily cleaned after using by boiling and shaking out the excess of paraffine over a flame, or if a clot sticks in the tube, after it has been laid aside, this can be digested out with a solution of pancreatin and carbonate of soda or with antiformin, or, as we have recently discovered, can be easily cleaned out with the ordinary tobacco pipe cleaner. The accompanying plate shows the variety and actual sizes of tubes used (Figs. 4 and 6), the longer and smaller caliber tubes being more desirable for infant work. (Admirably described by Vincent in *American Journal of Diseases of Children*, 1911, 1, 376.)

The authors were particularly interested in the question of the feasibility of vein-to-vein transfusion and have become thoroughly convinced, by repeated trials, of not only its great simplicity, but its entire efficaciousness. To work with the external jugulars of dogs, with the great disadvantage of the intervening head and shoulders, is not easy, but in spite of these disadvantages, and the fact that here, unlike the human arm, no tourniquet could be applied to aid the flow of venous blood from the donor, the transfusion took place very easily, steadily and with no clotting or other untoward results. The flow is rather less rapid, but except in the very greatest emergencies, due to great loss of blood, this would not stand as an objection, since with the use of the tourniquet the flow can be made fast enough for practical purposes. And even in the greater emergencies, when greatest speed is required, we feel sure that the rapidity with which two veins can be hitched up would offset the more rapid flow of arterial blood, which in turn is offset by the greater delay in getting out and hitching up the artery. We have not yet had opportunity to try this on the human being, but the ease and speed with which it can be done in the dog and the satisfactory rate of flow convinces us of its feasibility. It has the distinct advantage in that it is practically always easy to find two accessible veins in the arm which can be secured with a minimum amount of trauma to the arm and hence lessen danger of sepsis and the sacrifice of a radial artery. After hitching the tubes to the artery or vein a little blood may be allowed to run through to push out the air before hitching up to the vein, or the

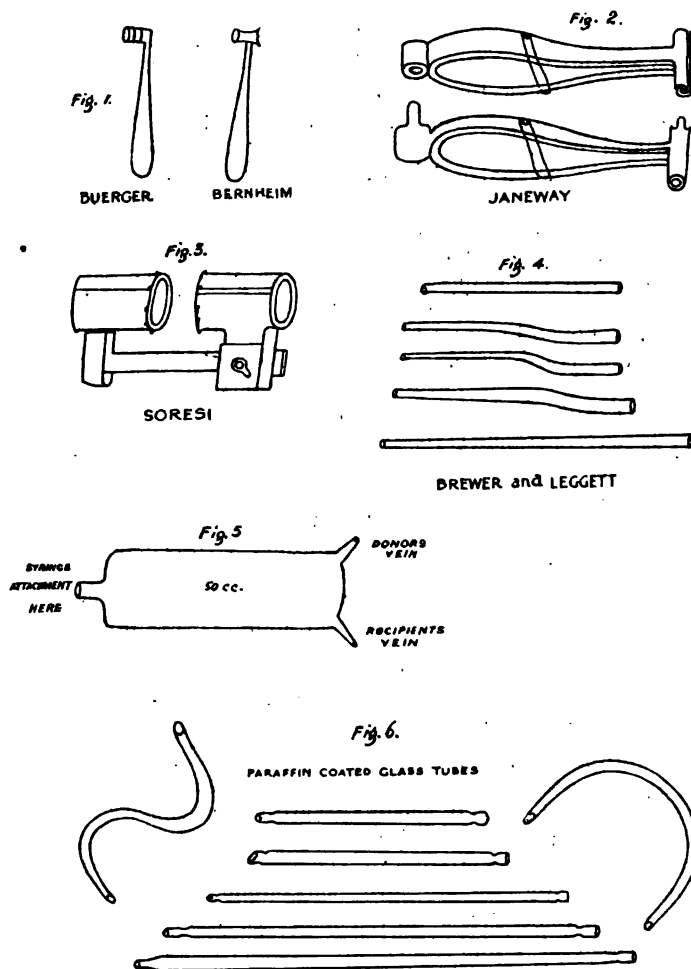
\* See Bibliography.

tubes may be previously filled with salt solution. The latter is probably the safest method as it eliminates a chance of clot formation previous to starting the transfusion. The entrance of a tube full of air into a vein, however, has repeatedly been proved to be entirely harmless in dogs. Considerable amounts of air have been purposely driven into veins and no untoward results have followed. Of course it is best to avoid this if possible. The ordinary technic of preparing the recipient's vein is to dissect it out, cut it across and, by means of the little vessel hooks, insert the cannula. This is often difficult, as

opposite end to which a syringe can be attached. They advocate a bulb holding 300 ccm. and attached to it a large 100 ccm. Porges syringe.

Fig. 5 shows a bulb holding 50 ccm., a modification and simplification of the David-Curtis bulb, which we have used with great ease and success. The technic is as follows:

One small teat is put into a slit in the donor's vein, the other into a slit in the recipient's vein. A serrefine clamp is applied to the latter's vein and a tourniquet to the donor's arm near the shoulder. Blood will then flow slowly into the bulb, which has been previously sterilized by



bits of adventitia get in the way, or the vein collapses and retracts so that the opening is hard to find. We consider that a nick in the vein large enough to admit the tip of the cannula, the cut edges being steadied by the hooks or two stay sutures of fine silk, is better technic. In this way the vein is held in place and the end is unable to retract and get away from the operator and the technic is much simplified.

The authors also became interested in the ingenious device of David and Curtis, of Chicago.\* This consists of a glass bulb with two teat-like ends drawn out like small cannulae for insertion into each vein and a nozzle or prolongation at the

boiling and coated inside with paraffine, but the flow can be greatly hastened without danger of clotting by exerting slight suction in the bulb by means of any large syringe attached to the bulb by a rubber tube. When the syringe needs re-adjusting the rubber tube is compressed till the syringe is taken off, adjusted and reconnected (by a non-sterile assistant if necessary). When the bulb is nearly full of blood the serrefine is removed from the recipient's vein and placed on that of the donor and the blood forced by means of the syringe from the bulb into the recipient's vein. The only precaution necessary is to be careful not to force the last cubic centi-



meter of blood out of the bulb lest air be forced into the vein, which may do no harm but which on general principles is undesirable. This small 50 ccm. bulb is much easier to handle than one of larger capacity and there is no contra-indication to refilling the bulb as many times as is necessary to get the desired amount of blood. Clotting does not occur and the method has the great advantage that the exact amount of blood transfused can be measured. The authors were greatly pleased and rather surprised at the perfect ease and simplicity of this method and recommend it highly, especially in any experimental work in which it is desired to know the exact amount of blood given. (Note: The bulb can be easily blown at a very moderate cost by any glass blower. Ours were made by the Staniford Glass Company, 40 Hanover Street.) Another fairly accurate method of measuring the amount of blood transfused is that advocated by Deavor,\* who allows a certain number of beats of the artery to spurt into a graduate and noting the amount given by that number of beats. When the artery and vein are hitched up a count of the donor's pulse is kept and the amount of blood transfused thus estimated. Various authors consider that it is seldom safe or necessary to transfuse more than 300 ccm. of blood at one time.

We have also investigated the feasibility of the method proposed by Hartwell\* and modified later by Deavor,\* or that of doing transfusion without the aid of either cannulae or clamps. With a layout consisting only of two pairs of forceps, a pair of scissors and a knife, we have done transfusions with little difficulty. The vein must be cut across and can be kept open by means of thin stay sutures. The artery can be easily controlled by finger and thumb pressure of the operator while connecting the vessels. There are two distinct disadvantages to this method which make it undesirable as a routine. The first is that at least two or two and one-half inches of both artery and vein must be dissected up and made free in order to give length enough for connection and for invagination of the artery into the vein to prevent back flowing, which takes place very readily with any slight bending of the vein. The second objection is the difficulty of controlling this back flow. It is done by applying a hemostat sidewise to the redundant wall of the vein over the artery, but is hard to apply so as to stop all back flow. We would not hesitate to do a transfusion, however, with the limited layout mentioned above, and would expect success.

#### SUMMARY.

(1) Practically all of the previously advocated instruments and devices for transfusion of blood are either too complicated or require too much skill in manipulation or manufacture and are not suited alike to all cases.

(2) The use of paraffine-coated glass tubes, as advocated by Brewer and Leggett, and later by Vincent, is the easiest and simplest method

and most likely to succeed in all classes of cases.

(3) The glass bulb of David and Curtis is also extremely simple, safe and affords accurate measurement of the blood transfused.

(4) It is possible to do transfusion without cannulae or clamps or any mechanical aids, provided enough length of artery and vein are dissected out.

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### THE OPERABILITY OF CEREBRAL ENDOTHELIOMA, WITH THE REPORT OF A SUCCESSFUL CASE.

BY GEORGE L. WALTON, M.D., AND JOHN HOMANS, M.D., BOSTON.

No one familiar, either practically or through the literature, with the surgery of intracranial growths need be reminded that completely successful cases are rare. It was recognized long ago that theoretically perhaps 10% of these growths are operable, but in practice the successful cases are reduced to a minimum on account of failure to recognize and localize them, failure to operate, failure to find or, if found, to remove, to say nothing of death or inability of the brain perfectly to recover function, after operation.

The form of new growth offering the best chance for successful removal and perfect recovery is the endothelioma. Unfortunately, however, the very factors that contribute to this result render this form of tumor the most elusive from a diagnostic point of view; these factors are lack of pressure symptoms and lack of symptoms pointing to disintegration of brain tissue. It is particularly important, then, that the general practitioner as well as the surgeon and the neurologist become familiar with this tumor and bear it in mind in case of continuous and increasing cerebral symptoms, such as epileptiform attacks, even though the eye grounds and intellect be clear, the sight and other functions of the brain unimpaired, headache and vomiting slight or absent and the general condition good.

Endothelioma has been well described by Blackburn (Intracranial Tumors among the Insane, 1902). In twenty-eight cerebral tumors found at autopsy in the Government Hospital for the Insane, he found seventeen cases of endothelioma. Practically all of them apparently would have offered sufficient promise of

successful removal to render operation imperative if their existence and location had been suspected during life.

These tumors spring from the endothelioma of the dura and gradually impinge upon and displace brain substance without destroying it, excepting very superficially in certain cases, after considerable growth, the brain being in such cases softened and sometimes adherent to the tumor at the periphery. These growths are not malignant and have no tendency to local recurrence, or metastasis. They spring from the dura, to which they are closely but not extensively adherent, they gradually increase as solid growths, sometimes, as in our case, with projecting knuckles, finally reaching a diameter of several inches, still well defined but not encapsulated.

**CASE.** W. E. T., a married man of thirty-seven, patient of Dr. Phippen, of Salem, seen in consultation by Dr. Walton in September, 1908, November, 1909, and March, 1912.

Foreman in a factory. Has always been well. In view of his epileptiform attacks, beginning in the right shoulder and arm, he mentions having ridden into the fender of an electric car twelve years ago and having injured these parts. He does not know whether he struck his head; there was no bruise there, but he was unconscious. Married fourteen years, no children; his wife has had no miscarriages. No venereal history, no eruption, no loss of hair.

First symptom of present trouble was an epileptic attack, May 1, 1908. In this attack he seemed to have cramps in both legs, then screamed; general convulsive movements appeared. Unconsciousness lasted one-half hour. There was no involuntary micturition. The face was discolored and his teeth were broken. The attack was followed by weakness and dazed condition, with recovery in three quarters of an hour. These attacks recurred at intervals afterward, always starting in the right hand, with curling up of the fingers, then spreading to the shoulder with great pain in that region, then becoming general with unconsciousness. At other times the right hand twitches, but no unconsciousness follows. At the time of the visit, in September, 1908, there had been no complaint of headache or other symptoms, excepting indigestion.

Physical examination showed normal knee-jerk and Achilles reflex, no Babinski; pupils and fundus normal; all movements of the arm and fingers normal; no loss of sensation; no astereognosis. Articulation was perfect, but in writing mistakes occurred in decided contrast to his previous ability. In writing, as in other ways, the patient showed a marked nervousness suggestive of that seen in general paralysis, a diagnosis which was taken very seriously into consideration at that time.

Between this time and November, 1909, he had three attacks in which the teeth were clenched, the cheek was bitten and there was discoloration and frothing at the mouth. Recovered in about twenty minutes and with some confusion. He has been able to continue his work, shows more interest than he did, sleeps better and has generally improved; is less nervous. Has taken bromide and iodide continuously. The attacks are of the same character, always commencing in the right hand, but at times, in addition, he seems to have a sort of petit mal, in which he will stare vacantly for a few minutes and not answer when spoken to. Has been twenty-five weeks and twenty-two weeks without an attack. No other symptoms have appeared.

March, 1912: Has had seventeen attacks at varying intervals since November, 1909. For the past year the attacks have been lighter, and loss of consciousness has not followed. The twitching has begun in the right hand and spread to all extremities and left him weaker than formerly. He has had to remain away from work two weeks after an attack. During the past year has had headache, sometimes severe, sometimes lasting all day. There has been no nausea and no vomiting. After the last attack he could not move the right arm for a time. The physical examination shows no loss of motion, no astereognosis. His wife states that he is irritable when the attacks are coming on, that he has no ambition to work and that he holds his arm to his side more than he did. His memory is treacherous regarding recent events; for example, as to whether he has taken his medicine, and the like, though he remembers what has happened in the past. He is very constipated. He thinks his sight is not quite as good as formerly, but reads next to the smallest type, and the fundus is normal. The pupils and reflexes are normal, the arteries soft, pulse regular, the heart normal, the blood pressure 125. He now writes "God save the Commonwealth of Massachusetts" perfectly and enunciates perfectly. Operation advised and accepted.

The operation was undertaken in the hope of finding either a new growth or some local irritative lesion, as scar tissue or a cyst. We felt that in case the lesion were a tumor the chances were that it was an endothelioma. The arguments for this belief were the absence of optic neuritis, vomiting and paralysis, and the moderate degree of headache. Some or all of these symptoms would be apt to be prominent in other tumors of several years' standing in this location. The operation was performed by Dr. Homans, at the Salem Hospital, Dr. Walter Phippen assisting, March 16, 1912.

A cut is inserted (Fig. 1) showing the seat of the tumor as found. The circle represents its attachment to the dura, the shaded part its projection downwards into the brain.

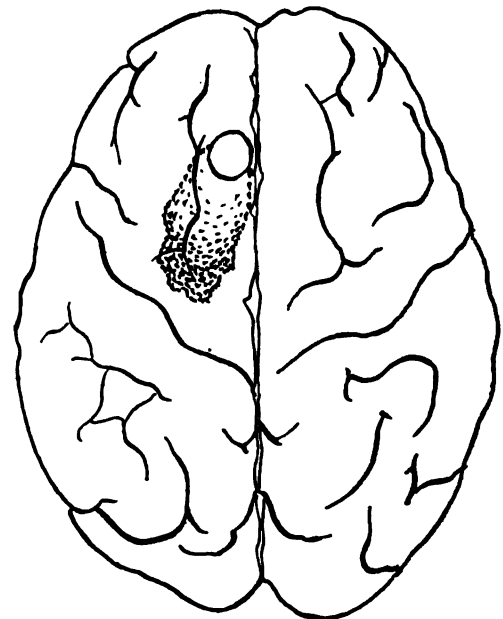


FIG. 1. View of the brain from above showing the seat of tumor. The circle represents its attachment to the dura, the shaded part its projection downwards into the brain.

## SURGICAL CONSIDERATIONS.

The problem of successfully removing these tumors depends on a number of factors peculiar to their growth. These are the situation of the tumor in the neighborhood of the median line; the attachment of the tumor to the dura; the absence of any intimate connection between the tumor and the brain substance; and the slow character of the growth which enables it to attain considerable size without permanently damaging the brain.

Of all these factors, the only one which is against successful enucleation, and it is very much against, is the median situation of the growth. The longitudinal sinus is the cause of the difficulty. In a normal head the prolongations of this sinus may extend into the skull for considerable distances to either side of the median line. Large delicate veins may run from the surface of the brain into the dura, and from the dura into the venous channels in the bone. The normal danger zone extends one-half to one inch from the median line. In the neighborhood of a tumor the number and size of these bone sinuses is, of course, increased, and, more than this, the longitudinal sinus and its immediate tributaries are apt to be distorted.

The key to success in attacking one of these tumors lies, therefore, in gaining access to the whole extent of its base in the dura without undue hemorrhage. This being done, the blood supply of the growth, all of which passes into it from the dura, is easily controlled, and the shelling out of the tumor becomes merely a matter of gentleness and care. Here the original neurological examination may be of help in indicating in which direction the growth has extended. It is perfectly conceivable that a tumor may grow from the dura close to the median line at some distance from the motor part of the cortex. In its growth it may elongate in the direction of this part of the cortex, and, as in our case, the tip may reach the neighborhood of the hand area, setting up a chain of symptoms from that point but leaving the leg area unaffected. Thus we may get a lead to the direction the mass takes beneath the surface.

A description of the operation performed in this case will illustrate these matters. We had to deal with a strong, apparently sound man without any localizing physical signs, except the focal character of his epileptic attacks. His first attack had been ushered in by a sensation of "cramps" in both legs. Later, his convulsions began in his right hand, and, as time went on, they tended to leave his right arm weak immediately after their passage. Associated with this history were rather vague frontal lobe symptoms.

Accordingly an osteoplastic flap was turned down on the left side of the head, large enough to expose the motor region up to the leg area and the frontal lobe for an inch or two in front. This was done with the aid of a tourniquet, and with very little loss of blood. The arms of the flap were made with the DeVilbiss rongeur and the upper edge bevelled with the Gigli saw. The border in the opening of the bone might have been three fourths of an inch from the median line. In the front upper corner of the wound the base of the tumor was seen, or rather a spider-like collection of vessels merging into a bluish thickening on the dura. Part of this area was covered by bone, and its inner edge was evidently close to the median line. To uncover it completely the border of the opening was carefully rongeured away, with the loss of more or less venous blood, not only from the sinuses in the bone, but occasionally in gushes from between the bone and dura. The total amount of blood lost in this way was not large, however, for the bone sinuses could easily

be controlled with bone wax, and the occasional gushes from separation of the dura and bone could be stopped by plugging with absorbent cotton.

Before the opening was completed the dura was incised on the outer side of the tumor to determine if possible the extent of its base, and it was found at this time that two thirds of the circumference of the attachment could be cut away as the vessels in the dura were tied off. It was now only necessary to remove enough more bone to allow access to a very narrow strip of dura to the median side of the tumor, for it was evident that if the growth were shelled out from the outer side, the clamping and dividing of its last dural attachment on its median side would be an easy matter. These steps were successfully carried out, and the tumor, which measured 5.5 x 3.5 x 2.5 cm., was safely removed. The cavity which it left was soon filled by the pressure of the white matter from the sides.

Except that an area of bone was removed from the flap to correspond to the amount of brain surface denuded of its dura, the wound was closed as in any other craniotomy, and drained in one corner with a bit of rubber tissue. It healed without incident.

## SUBSEQUENT HISTORY OF CASE.

The day after the operation there was complete paralysis of the arm, moderate paralysis of the face, inability to articulate and trouble in swallowing. The leg was all right.

On the second day he said a few words, the swallowing was all right and he had begun to move the upper arm.

On the third day the face was slightly better and the upper arm movements had become normal; power was returning in the forearm, but there was no movement of the wrist or hand.

The fourth day the rubber tissue drain was removed. The face was better and movement in the wrist had appeared, none in the hand.

On the fifth day the edema of the right eyelid, present up to this time, had disappeared; he had begun to flex the fingers.

On the sixth day the flexion was increasing and there was slight power of extension. Temperature was now normal, never higher than 102.5° F.<sup>1</sup>

On the eighth day he was sitting up in bed, bright, well appearing and in first-rate condition. There was moderate facial paresis; he could make all movements of the face, but with some impairment of strength. The face was drawn to the left. There was somewhat less power in the orbicularis oris on the left than on the right. General movements of the upper arm were perfect, as well as special movements of the deltoid, biceps, triceps and supinator longus. Extension and flexion of the wrist and fingers were present but weak. He was unable to touch the thumb to the separate fingers, but could with difficulty hold a pencil. There was no impairment of sensation in the right hand, but he was unable to name objects placed in it. This was apparently due to lack of ability to use the fingers rather than to astereognosis, but this point could not be absolutely determined. The movements of the leg were perfect. The knee-jerk was normal.

There was marked aphasia of the so-called motor type. He found no difficulty in carrying out simple orders, as showing the tongue, shutting the eyes;

<sup>1</sup> The cause of this rise in temperature, which was irregular and intermittent in the first days of convalescence, is not clear. It has always been a tradition that cerebral laceration produces "fever," though as far as we know the mechanism of this reaction has not been satisfactorily described. In this instance there was no evidence of an inflammatory process, as we understand one, at the site of operation. Nor is there reason to believe that there was any disturbance of the medulla in this case. Laceration, or perhaps better, the exposure of deep brain substance, stands as the cause of the elevation of temperature in this case.

and even more complicated orders, as touching the right ear with the left forefinger, he carried out perfectly after some hesitation.

Fourteenth day: Patient sitting up and greatly improved. Can open and close hand very well and separate fingers. Spontaneous speech still greatly impaired, but can say the Lord's Prayer and tell the days of the week and count. Careful examination by the use of Bastian's thirty-four tests shows no sensory aphasia, no mind blindness or word blindness, no word deafness or mind deafness.

The condition has steadily improved since and we are informed that he is now talking quite well and that the movements of the hand and fingers are all present, though not yet strong.

#### PATHOLOGY.

Dr. Mallory reports a typical endothelioma. To give an idea of the formation of an endothelioma, a cut (Fig. 2) is inserted illustrating three whorls of spindle cells with elongated nuclei, and three blood vessels, and another (Fig. 3) showing two of these whorls hyaline degenerated, as well as the walls of the three vessels.

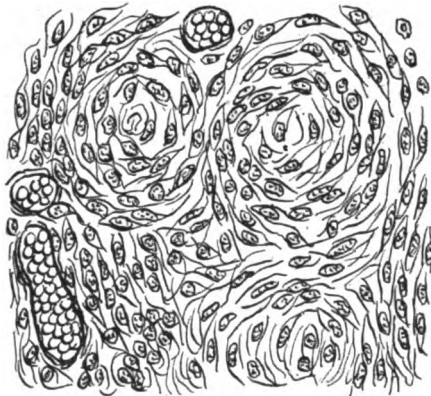


FIG. 2. Three whorls of spindle cells with elongated nuclei and three blood vessels.

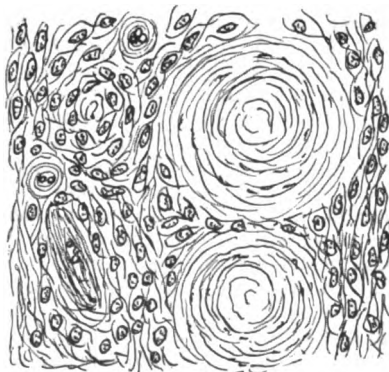


FIG. 3. The same with hyaline degeneration of two of the whorls and of the vessel walls, causing partial obliteration of lumen.

For the pathology of these tumors, as well as to make the illustrations clear, we can do no better than quote the important details from Blackburn, referring the reader to his article for their complete description.

"In most of the writer's cases a dural origin was highly probable, and in two growths of the

series there was unmistakable evidence that the tumor cells originated from the proliferated endothelial cells covering the arachnoid villi penetrating the parasinoidal and lymph spaces of the dura in the vicinity of the falx cerebri. . . . They are made up for the most part of delicate, slender spindle cells, with elongated oval nuclei and cell-bodies. In the denser spindle-cell portions the cells are closely applied to each other without distinguishable intercellular substance, and the tissue much resembles richly nucleated fibrous tissue, as it is extremely difficult to differentiate individual cells. In other growths, and even in other portions of the same tumor, there may be a more or less abundant fibrillated intercellular matrix, which doubtless has led to the description of such varieties as fibromata. . . . In some tumors connective tissue is present in considerable amount, sometimes forming alveoli, in which lie groups of variously arranged spindle cells. In some cases the fibrous tissue forms broad bands running in every direction through the tissue and carrying the principal blood vessels; again, this tissue may be scanty and may be mainly resolved into spindle cells and delicate fibrils, apparently the transition stage between the spindle-cell tissue and the more mature connective tissue. . . . Though these tumors differ in many respects from the ordinary sarcomata, they belong to the connective-tissue group of new growths, and we must regard both the blood vessels and the connective tissue as essential parts of the structure. We find also in these growths, as in ordinary sarcomas, the tendency to develop from the embryonic to the more mature forms of mesoblastic tissue. . . . In all tumors of this class there is a marked tendency for the cells to arrange themselves into whorls, or concentrically grouped cell spherules separated from each other by longitudinal groups of spindle cells. . . . These tumors are peculiarly liable to hyaline degeneration and subsequent calcification. It may affect the cell spherules, the spindle cell bands, the vessel walls, the connective tissue present; the hyaline material may even exist as small, free, concentrically striated globules in the vicinity of the blood vessels and elsewhere. . . . When affecting the concentric cell groups, it produces the peculiar hyaline spherules for which these tumors are noted; in the longitudinally disposed bands of cells it forms the cylindrical and lanceolate deposits found in some tumors; in the vessel walls it results in great thickening and even obliteration of the lumen; and in the connective tissue it converts whole fields into glassy, almost structureless, tissue, with a few persistent nuclei."

BEQUEST TO THE McLEAN HOSPITAL. — By the conclusion of long-continued litigation, the trustees of the Massachusetts General Hospital have lately received the sum of \$60,000 under the will of the late Mrs. Sarah E. Cazenove, who died over 30 years ago. The fund is to be applied to the free treatment of the insane at the McLean Hospital.

## A STUDY OF ERYTHROCYTHEMIA AND REPORT OF A CASE, WITH AUTOPSY.\*

BY ANNIE LEE HAMILTON, M.D.,

Visiting Physician, New England Hospital for Women and Children;

AND

MARY ELIZABETH MORSE, M.D., BOSTON,

Formerly Pathologist to the New England Hospital for Women and Children.

SINCE 1892, when Vaquez<sup>1</sup> reported the first observed case of this disease, a number of others have been published and it has been described as a new clinical entity.<sup>2</sup> Yet little or nothing has been discovered as to its cause; there have been comparatively few autopsies, and many of these have not included the examination of the bone marrow, apparently the most important structure in this disease. Weber<sup>3</sup> defines it as "a disease, or at least symptom-group, characterized by persistent and absolute polycythemia (increase in the number of red corpuscles) due to excessive erythroblastic activity of the bone marrow without the presence of any recognized, or at all events sufficient, exciting cause; it is also characterized by persistent increase in the viscosity and total volume of the blood, and usually by a cyanotic appearance of the patient and by enlargement of the spleen."

Some of the cases reported have not been cyanotic.<sup>3</sup> The patients complain of weakness, pain in various parts of the body (especially in the head), vertigo and constipation. Hemorrhage is not uncommon, especially cerebral hemorrhage. Chronic cyanosis is, of course, a common condition, occurring in various diseases, such as organic disease of the heart, especially of the congenital type; diseases of the lungs, notably emphysema, and occasionally after long-continued use of coal-tar products (antipyrin or acetanilid), owing to the presence of methemoglobin. The count of red cells in the peripheral blood is increased in cardiac and pulmonary diseases causing cyanosis, — because the cells are crowded at the surface of the body, but there is no total increase of cells, merely a change of distribution. Such cases are distinguished from polycythemia by the presence of a clear cause for peripheral stasis.

In erythrocythemia, the total number of red corpuscles is very markedly increased. In the cases reported, the lowest count is 5,300,000, while in one of the highest reported, Cabot's<sup>4</sup> second case, the count varied from 9,252,000 to 12,000,000 with a hemoglobin of 120%. In the earlier observation of this case the spleen is said to have been enlarged "up and down," and four years later it reached the navel. There was no autopsy. Other cases show even higher counts up to 13,600,000, with hemoglobin of 120% to 190%.

Although most of the cases of erythrocythemia so far reported have been observed by careful clinicians, accustomed to weighing all the evidence, the cause of this disease has not been discovered, although in a few cases it appears as if the bone-

marrow had never lost its fetal characteristics and as if the polycythemia was the result of this infantile or rather fetal condition of the blood-forming organs.<sup>5</sup> The examination of the long bones after death, and in one case<sup>6,7</sup> during life shows that the bone marrow is intensely red and very actively engaged in the formation of red cells, instead of being yellow and mostly fatty, as in the healthy adult. As a result, the number of red cells is greatly in excess of the normal. In grave anemia, there is also a red, hyperactive marrow, but the type of cell produced is abnormal in anemia, normal in erythrocythemia. Weber<sup>3</sup> says, "The excessive formation of red blood corpuscles in myelopathic polycythemia may perhaps be regarded as analogous to the excessive formation of white blood corpuscles in cases of leukemia. According to various theories the abnormal activity of the bone marrow is due to a state of toxemia having its source in spleen, lungs or alimentary canal, or the polycythemia may be regarded as a result of a compensatory reaction toward some hypothetical disturbance in the gas-exchanging functions of the blood, which might, in its turn, be of toxic origin."

The hemoglobin is also increased, although Brill<sup>8</sup> calls attention to the fact that the color index is really low, as with more than double the normal number of red cells we should get a proportionately high percentage of hemoglobin. This test, however, is considered less reliable than the blood counts.

The total volume of the blood is greatly increased,<sup>9</sup> in one case reaching the enormous amount of more than 10 quarts ("10,750 ccm."), probably more than three times the quantity normally corresponding to the patient's body-weight, the vessels being stuffed with blood.

In 1905, F. P. Weber and J. H. Watson reported the results of their experiments with capillary tubes.<sup>10</sup> "We have succeeded in experimentally proving that, other conditions being similar, increase in the proportion of corpuscles to blood-plasma does decidedly increase friction in the flow of blood through capillary channels; that is to say, it raises the viscosity of the blood." "The viscosity is increased more or less in proportion to the degree of polycythemia."

The spleen is much larger than normal, sometimes reaching an immense size. The liver is frequently enlarged.

Rupture of the cerebral blood-vessels is a frequent cause of death. In Umney's<sup>12</sup> case there were extensive multiple thromboses; the patient also suffered from a severe type of chorea.

Of the twenty-five cases collected by Weber (*loc. cit.*) all but one, whose age was unrecorded, died between the ages of twenty-four and sixty-one. Seventeen of these, or over two thirds, died between thirty-five and fifty years of age. The youngest living case reported is that of a school girl of seventeen<sup>11</sup> years. Parker and Slocum<sup>22</sup> report 2 cases with ophthalmoscopic examination and a very interesting plate of the eye.

\* Read before the New England Hospital Medical Society, March 21, 1912.

It is desirable that every case, especially if an autopsy is allowed, should be reported, in the hope that definite cause may be found. Russell suggests that a careful examination of the suprarrenal bodies be made, to find a reason, if possible, for the extreme weakness.

The rational treatment for this disease would seem to be blood-letting, and when it has occurred, either as a clinical method or by accident, temporary improvement has followed. Chambers<sup>14</sup> reports the case of a woman aged sixty-five years who had been bled nine times in two years in amounts from twenty to thirty-five ounces, on every occasion with marked relief. Her red cells varied from 6,660,000 to 12,000,000, the hemoglobin 105%. McQuitty's<sup>21</sup> case is also instructive. A man of forty-six years vomited a great quantity of claret-colored fluid, about three gallons, and passed another gallon of dark material from the bowel, most of which McQuitty thinks was undoubtedly blood, and while he was very weak for a time after the bleeding, was much better four months later.

In the case reported below, bleeding was considered as a therapeutic measure and would probably have been carried out later had the symptoms been sufficiently urgent.

The removal of the spleen has not been followed by results which justify the operation. The risk of such an operation is considerable and is greatly increased by the hemorrhagic tendency of the disease.

The iodides are advised, chiefly because they diminish the viscosity of the blood. In the writer's case, they seemed to have marked effect in reducing the size of the liver. X-ray seems to have been of value in some cases and not so in others. On the whole it has been rather unsatisfactory, but in one case<sup>7</sup> the author says, "One of the most striking points in connection with the case, both in the subjective symptoms and in the size of the spleen, was that which followed the exposure to the x-ray in the early stages of the disease." Three years later, however, when the spleen was enormous and the polycythemia very marked, the x-ray had no effect on the spleen, but relieved the subjective symptoms.

It seems, then, that the x-ray may be of great value in some cases, more especially in the early ones, and should always be tried.

Tonic baths, fresh air, careful diet and general good hygiene and cheer help greatly in keeping up the general condition and the spirits of the patient. In the case reported below, the patient under such treatment seemed to be steadily improving, and expressed herself as feeling well.

Miss F. N., a teacher, consulted me on Dec. 10, 1909. The family history was negative. The past history indicated that she had never been strong. She had had all the ordinary diseases of childhood. Scarlet fever, at sixteen, was followed by "chronic gastritis." During her college course she usually went without breakfast and did not eat properly at any time. She has had a position of great responsibility at school and has taught steadily for twelve years. She has never been accustomed to taking alcohol in any form and has

taken very little medicine unless ordered by her physician.

For a year and a half she has been miserable. Just before Christmas, 1908, she felt especially so, had much neckache and was covered with "blackheads," but she is sure she had no other eruption. Then she began having indigestion, not influenced by the nature of the diet, and much distress from gas. In the spring of 1909, she noticed that her waist was getting perceptibly larger. About this time she had an acute attack called "grippe," with much general pain; temperature, 105°. At that time she first noticed that her skin was very dark. She was in bed two days, but was much better in a week and returned to school. Every one spoke of how "tanned" she appeared. She now noticed a solid growth at her waist-line. Her waist had always measured twenty-two inches and was now much larger.

Although living under the best conditions all the following summer, there was no permanent improvement; still she had gained in some ways. In November, 1909, she had a severe attack, during which she was tired, drowsy and feverish, with much indigestion and extreme constipation. Food was repulsive. The skin now became darker in color, the waist grew rapidly bigger. The constipation, after some days of great distress, was relieved and her symptoms improved, although she was ill and weak for a month. About this time she made a journey to Boston for x-ray examination of the stomach. This was made by Dr. Percy Browne and the stomach found to be normal. No note was made apparently of the condition of the other organs. Menstruation ceased August, 1909. After that time she had frequent nosebleeds.

Physical examination showed a small, delicate looking woman, height 5 ft. 2 in. Teeth in good condition. Skin yellowish and somewhat cyanotic, sclera slightly tinged with yellow. Herpes zoster on right side, on level with seventh rib. Heart and lungs apparently normal. Waist measure thirty-two inches; marked bulging of abdominal walls due to greatly enlarged liver and spleen. The liver reached half way to the umbilicus, the left lobe being markedly affected. The spleen reached to a point half way between the costal border and umbilicus. No shifting dullness in flanks. Vaginal and rectal examination negative. Urine normal except for slight trace of bile. After the first analysis nothing pathological was found in the urine.

The blood examination at that time showed: Hemoglobin, 85%; red cells, 7,408,000; slight poikilocytosis, otherwise the red corpuscles look normal. White cells, 9,400; polymorphonuclears, 80%; small mononuclears, 14%; transitionals, 1%; eosinophiles, 3%.

The patient was given tonic baths, increasing doses of potassium iodide and carefully chosen diet.

She gradually felt stronger and better in every way and the liver diminished an inch and a quarter in five weeks, as shown by careful measurement, while the waist measure decreased from thirty-two to twenty-nine inches.

At this time a death occurred in the family which depressed her a good deal. She lost ground, her skin and sclera grew deeper yellow, lips dark crimson, whole appearance markedly cyanotic. She had much gas and intestinal discomfort and complained of pain all over her body.

Jan. 25, 1910: Feeling especially miserable every other day. Had severe abdominal colic yesterday, followed by aching all over for hours. Vomited this morning. Has nose-bleed frequently.

Jan. 28: Seen in consultation with Dr. Richard C. Cabot and another blood-count made. This time the



count was found to be 8,000,000; a diagnosis of erythrocythemia was made and x-ray treatment advised.

She entered the New England Hospital for Women and Children shortly afterwards. Her blood examination then showed: red corpuscles, 7,773,000; white, 8,400; hemoglobin, 95%; polymorphonuclears, 82%; small mononuclears, 10%; large mononuclears, 4%; transitionals, 3%; eosinophiles, 1%. The red cells stain lightly. A few microcytes and poikilocytes are present. No nucleated reds are seen. Platelets are not increased.

She was given x-ray treatment over the long bones, especially the legs, twice a week; also tonic baths and massage. She was out of doors for some hours every day and walked about the grounds as much as her strength permitted. There was some general improvement and the cyanotic tinge of the lips decreased. The skin and conjunctivæ remained rather yellow, though the whole appearance improved and she felt better.

March 16, 1910: Went for luncheon with friends, going about six miles in an auto and back again. Enjoyed her visit and was not especially fatigued.

March 17: Felt very well during the day and at 6 P.M. ate a light supper, chiefly soup and bread. At 6.40 while standing chatting, she suddenly vomited a few mouthfuls of blood. Was put to bed immediately but soon vomited a quart of dark blood. After the first quart had been lost, although her face was pale, and her extremities cool, the lips remained bright red, and the pulse, lost for a moment, soon registered 96 and was of fair volume.

At periods of about an hour or less, more blood was vomited with very slight effort, in amounts varying between a pint and a quart, until the surprising amount of *six quarts* had been vomited in about four hours.

During this time every expedient for checking the hemorrhage was tried without avail. She retained consciousness till within about ten minutes of her death. At 10.50 P.M. she complained of violent intestinal pain and the intestines in the right upper quadrant could be felt distending rapidly. She was given morphia sulphate, gr.  $\frac{1}{4}$ , hypodermically, and the pain was dulled. By this time she showed the signs of acute hemorrhage and collapse and died at 11.15 P.M.

The autopsy was performed twelve hours after death by Dr. Morse.

The body is that of a well-formed mature woman 150 cm. long. Rigor mortis is marked. The skin and scleræ have a slightly yellow tinge. There is lividity of the ears and of the dependent parts. Considerable subcutaneous fat is present. The abdomen above the umbilicus is on a level with the costal margin. There is no edema or distention of the superficial veins.

Abdominal cavity: Panniculus adiposus is 1.5 cm. thick; 540 ccm. of yellow, slightly turbid fluid are removed from the cavity. The peritoneal surfaces are smooth and glistening. The stomach is much distended and its dark contents are seen through the walls. The intestine, as far as the first part of the ileum, is deep purple in color (due to the contained blood). The remainder of the intestine is pale. The liver is normal in size and shape. The spleen is greatly enlarged, extending anteriorly to the level of the umbilicus. It is bound to the diaphragm by firm adhesions.

The organs appear to contain a considerable

amount of blood. The gastric and mesenteric veins are not distended.

Thorax: Diaphragm reaches to the fourth interspace on the right, to the fourth rib on the left. The right pleural cavity contains about 5 ccm. straw-colored fluid.

Right lung: Is free from adhesions. The posterior part of the lower lobe is of a deep purplish red color. On section much frothy fluid can be expressed from the tissue, which, however, is everywhere crepitant.

Left lung: Is bound to the diaphragm by dense adhesions; otherwise it resembles the right.

Trachea and bronchi: Are filled with frothy fluid but contain no blood.

Bronchial nodes: Are small and deeply pigmented.

Heart: The pericardium contains about 5 ccm. straw-colored fluid. The heart weighs 250 gm. The valves are normal. The myocardium is slightly softened and has a gray color. The coronary arteries are normal.

Aorta: Is of normal size, color and elasticity. There are a few yellow flecks above the aortic valves, but elsewhere, both in the thoracic and abdominal portions, the intima is smooth.

Liver: Weighs 1,555 gm. Greatest width, 30 cm.; vertical diameter of right lobe, 20 cm.; greatest thickness, 7 cm. The capsule is thickened and the surface rough and granular. The color is dull yellowish-gray, mottled with red. The tissue cuts with resistance, and lobules of parenchyma strands project from the cut surface, separated by fine strands of connective tissue. The fibrosis is most marked in the lower anterior part of the right lobe. The color of the cut surface varies considerably in different parts of the organ. There are some areas of diffuse yellow and others in which the centers of the lobules are intensely red, and the peripheries yellow. The surface is lightly bile-tinged. The branches of the portal vein show nothing unusual.

Gall bladder: Contains a small amount of thin yellow bile.

Spleen: Weighs 785 gm. and measures 19 by 11.5 by 5 cm. The capsule is thickened. The organ is deep red in color and very firm in consistence. The cut surface is smooth, hard, and of a uniform bright red color. The Malpighian bodies cannot be made out.

Gastro-intestinal tract: 600 ccm. of partly clotted blood is removed from the stomach. No food is present. The veins in the lower part of the esophagus are much dilated and are distended with blood, forming a tortuous network above the cardiac orifice. A jagged tear 3 mm. long, closed over by clot, is found in one of these vessels 2 cm. above the cardiac orifice.

The gastric mucosa is everywhere normal in appearance. The pylorus is lax. Fresh blood is found throughout the entire extent of the small intestine, but none below the ileocecal valve. The mucosa of the intestines appears normal macroscopically.

Mesenteric and retroperitoneal lymph nodes: Are small.

**Kidneys:** Are normal in size and shape; combined weight, 280 gm. The right measures 11.5 by 6 by 3 cm.; the left, 11 by 5.5 by 3 cm. The capsule strips readily, leaving a smooth surface. The cortex averages 5 mm. in thickness and is somewhat pale. The blood vessels stand out prominently.

**Adrenals:** Normal.

**Bladder:** Is empty; mucosa pale.

**Uterus:** Small. The muscle is pale and soft, the endometrium thin and smooth.

**Bone marrow:** From the femur, vertebrae, ribs and sternum is examined. That in the femur is deep red, soft and abundant. The marrow spaces in the other bones are large and are filled with the same deep red soft marrow. Considerable blood drips from the sawed surfaces of these bones, giving them an unusual succulent appearance.

**Microscopical examination.**—**Lung:** The alveoli are enlarged, their walls are thin and often broken down. Many of the air cells contain fresh blood, desquamated epithelium and serous exudate. The capillaries are distended with blood.

**Heart muscle:** Is normal. The capillaries are distended with red cells.

**Liver:** Sections show a necrosis affecting the centers of the lobules. The cells around the portal system are usually well preserved. There is a moderate increase of both inter- and intra-lobular connective tissue; also areas of diffuse hemorrhage and an infiltration with small round cells. In some areas, the lesion is so marked that the contour of the lobules is lost. There are numerous groups of large deeply staining liver cells with one or two large vesicular nuclei. Many of these cells are pigmented.

The bile ducts are compressed by the connective tissue, but are otherwise unchanged. They show no proliferation.

In areas where the lesion is less intense the sinusoids are dilated and contain foci of normoblasts. There also are groups of large round, undifferentiated cells with large vesicular nuclei and a small amount of basophilic, indefinitely granular cytoplasm (primitive blood cells?).

Sections give a marked reaction for iron.

**Spleen:** The follicles are reduced in number and are small and poorly formed. The connective tissue of the pulp shows a marked diffuse increase. The endothelium lining the sinusoids is proliferated. The sinusoids are crowded with blood corpuscles. Many normoblasts are present and also groups of the same large undifferentiated cells observed in the liver. The pulp contains numerous plasma cells and small lymphocytes, and there also is considerable debris resembling remnants of red corpuscles. Only a very few phagocytic cells are found. There are a few areas of diffuse hemorrhage. Potassium ferrocyanide gives a marked reaction for iron.

**Kidneys:** Are normal except for slight thickening of the arteries of the glomeruli. The vessels are filled with blood, in which a few normoblasts are found.

**Stomach:** Is normal.

**Small intestine:** Shows much post-mortem

degeneration. The mucosa contains many eosinophilic polynuclear cells.

**Pancreas:** Is normal; not secreting. No increase in connective tissue.

**Lymph nodes.**—**Peribronchial:** Lymphoid tissue is abundant. The vessels are distended with red cells. There is no blood formation. Much blood pigment is present.

**Retroperitoneal:** Show connective tissue hyperplasia and areas of diffuse hemorrhage. The sinususes are filled with red corpuscles in various stages of degeneration. Normoblasts are numerous and there are scattered undifferentiated blood cells similar to those in the spleen and liver. There are considerable numbers of phagocytes containing pigment and remnants of red cells, also cells containing fat globules. Moderate numbers of plasma cells and eosinophilic mononuclears are present.

**Marrow:** That from the femur shows a complete change into the cellular form. The proliferation involves chiefly the red cells, though many neutrophilic and eosinophilic myelocytes are found. Enormous numbers of normoblasts are present. There are considerable numbers of megakaryocytes with rather poorly staining nuclei.

**Anatomical diagnosis:** Erythroblastic proliferation of the marrow, toxic cirrhosis of liver, diffuse hyperplasia of spleen, blood formation in liver, spleen and retroperitoneal lymph nodes; rupture of esophageal varix.

The most striking anatomical features of this case are, in addition to the hyperplasia of the red cells in the marrow, the evidences of blood formation in the spleen, liver and retroperitoneal lymph nodes, the marked cirrhosis of the liver, the large amount of blood left in the organs after the profuse hemorrhage and the nature of the accident causing death. Deaths in this disease have been reported following cerebral hemorrhage, and hemorrhage from the nose, stomach and intestines, but we have failed to find an account of a case in which the fatal termination was due to esophageal hemorrhage.

The picture in the liver of this case is that of diffuse cirrhosis with extensive destruction and regeneration. The cirrhosis belongs to Mallory's toxic type, which is characterized by necrosis of the liver cells around the hepatic vein (Johns Hopkins Hosp. Bull., xxii, No. 240, March, 1911). Slight degrees of increase in the interlobular tissue of the liver are mentioned in several reports, and in one of Türk's autopsies there was a "marked cirrhosis with atrophy of the left lobe and secondary enlargement of the right by regenerative hypertrophy (multiple adenomata)."

The most frequent finding in the spleen has been a simple hyperplasia, with distention of the sinusoids by red cells, and an absence of phagocytes. Myeloid changes have occasionally been found (Hirschfeld, Hutchinson and Miller). Blood formation in the liver and hemolymph nodes seems not to have been reported in previous autopsies.

Our thanks are due to Dr. William T. Councilman for looking over the sections.

## SUMMARY.

The points of special interest in this case are:

1. The improvement under x-ray treatment.
2. The decrease of the liver from very great size to about normal, apparently due to improvement, but really due to degeneration.
3. The varicosities of the esophageal veins, common in alcoholic cirrhosis of the liver but not expected in this case.
4. The extraordinary and fatal hemorrhage, due to
5. Rupture of the esophageal vein.

We wish to thank Dr. Richard C. Cabot for his advice and interest in this paper.

A summary of all the cases except Umney<sup>12</sup> may be found in F. Parkes Weber's "Critical Review, Polycythemia, Erythrocytosis and Erythraemia," the appendix of which gives the necropsy findings reported up to the time of publication.

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## New Instrument.

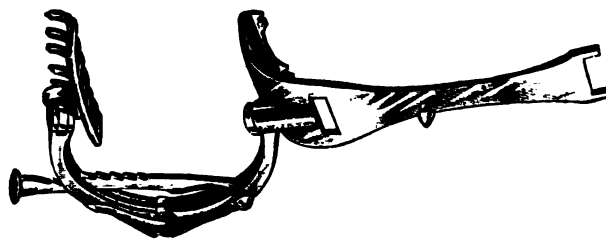
## A NEW MASTOID RETRACTOR.

BY PHILIP HAMMOND, M.D., BOSTON.

SINCE the radical mastoid operation was first performed, recourse has been had to various expedients to enable the operator to obtain a clear view of the cavity, and to keep the soft parts of the canal out of the field. A piece of tape seems to serve the latter purpose well, but there is generally some difficulty in obtaining the proper degree of tension on the tape. The retractor pictured here has been used by the writer for the past two years, and in its present form has given satisfaction. The larger or anterior member is so designed that it not only holds the auricle out of the way, but allows the tape to be threaded through the instrument, passed down into the wound, out the meatus, and after being drawn sufficiently tight, both ends are fastened on the spear-shaped point.

The instrument is self retaining; the more

widely the members are separated, the more firmly it is held in the wound; and the anterior member is not only held by this tension, but also by the fact that it is bound down by the tape through the meatus.



The connecting portion between the two members is shaped like a wish-bone, and is reversible, allowing the instrument to be used for either the right or left ear. In inserting the retractor, this portion is kept in a position at right angles to the side of the head, the margins of the wound are stretched apart and then the portion connecting the retractors is pushed down to a position parallel with the side of the head, either above or below the operative field, as choice dictates.

The apparatus possesses the advantage of imitating exactly the function of retractors held by hand, without the disadvantage of extra hands in the way.

## Medical Progress.

## REPORT ON PEDIATRICS.

BY JOHN LOVETT MORSE, M.D., AND FRITZ B. TALBOT, M.D.

## THE PROTEIN DIGESTION IN INFANCY.

I. *Ferments*. — The saliva of man was shown to contain a proteolytic ferment by Ed. Müller,<sup>1</sup> but up to date such a ferment has not been found in infants.

(a) *Pepsin* was first demonstrated in the mucous membrane of the infant's stomach by Zweifel,<sup>2</sup> and later Langendorff<sup>3</sup> extracted it with HCl from the stomach of a fetus of four months, at which time there is microscopic evidence of glandular formation. The amount of pepsin increases with the age of the baby up to the third month, and from then on remains constant in amount; it is present in larger quantities in bottle-fed babies than in breast-fed babies.<sup>4</sup> Pechstein<sup>5</sup> examined the urines of babies at different ages and under different conditions and found that all babies excrete pepsin and rennin in their urine from the day of their birth onward. These ferments are present only in the form of their proferments. They are found in minute quantities in the early days of life and increase in amount up to the end of the first year, at which time there is about one twentieth as much as in the adult. The urine of the artificially fed baby contains more than does that of the breast-fed baby. During an acute disturbance of digestion they are as abundant as in health, but during chronic diseases they

seem to be slightly diminished in amount. When pepsin and rennin are fed to a baby, no traces are found in the urine, and there is no increase in the amount of rennin in the stool. The ferments must, therefore, have been destroyed in the upper intestine or neutralized in the blood stream. If the intestinal mucous membrane is damaged, the ferments appear in the urine.

(b) *Rennin* and hydrochloric acid are found in the first days of life.<sup>6</sup> Rennin has been demonstrated in sterile meconium,<sup>7</sup> and a rennin ferment which acts independently of the stomach and pancreas<sup>8</sup> has been found in the stool.

(c) *Trypsin*. — Zweifel demonstrated trypsin in the pancreatic extracts of newborn babies, and Langendorff found it at the beginning of the fifth month of fetal life. Ibrahim<sup>9</sup> showed that when absolutely fresh material was used that only the proferment trypsinogen is present in the pancreas of the fetus, but that small amounts of trypsin may be present in the pancreas of older children. This can be markedly increased by activating it with enterokinase. The proferments are apparently activated by bacteria, which are, of course, not present in the intestinal canal of the fetus. He was able to demonstrate trypsinogen in a six-months-old fetus.

Trypsin is found in the feces in small amounts in health and in large amounts during diarrhea caused either by drugs or disease. Sterile meconium has the property of dissolving gelatine.<sup>10</sup> Hecht<sup>11</sup> demonstrated trypsin in the stools of babies as early as the first day of life.

Wienland<sup>12</sup> found antipepsin in the stomach and antitrypsin in the intestinal mucous membranes; he believed that their function was to prevent auto-digestion. Cohnheim<sup>13</sup> believes that antitrypsin is identical with enterokinase and that in small amounts it activates trypsin, and in large amounts prevents its action.

(d) *Enterokinase*. — The ferment which activates trypsinogen was first found by Ibrahim, who extracted it from the intestinal mucous membrane of newborn babies, and from meconium. That from the lower third of the intestine is most active in the majority of instances, but it may also be obtained from the mucous membrane of the large intestine. It apparently first appears in embryonic life at the same time that trypsin does in the pancreas.

(e) *Secretin*, according to Baylies and Starling,<sup>14</sup> is necessary for the activation of the pancreas. It may be extracted from the intestinal mucous membrane; it is not destroyed by heat, and belongs to the group of hormones. When injected intravenously it causes a flow of pancreatic juice in about one minute. Ibrahim and Gross<sup>15</sup> found it in babies who died at birth, but not in premature babies. Wentworth<sup>16</sup> found it absent or present only in small amounts in newly born babies. He found definite but weak action in a premature baby which had lived three weeks. Older babies, which had died of other diseases than those of the digestive tract, all showed a definitely active secretin. Hallion and Lequeux<sup>17</sup> found secretin in the upper part of the intestine of two newly

born babies, but were unable to find it in the lower part of the intestine. They obtained the same results in a five months' fetus. There is no record of secretin being found in the feces.

(f) *Erepsin* was first demonstrated in the intestinal mucous membrane by Cohnheim.<sup>18</sup> It changes albumoses and peptones very rapidly into amino- and diamino-acids, so that the Biuret reaction disappears. It has no action upon the native albumens with the exception of casein. It is present in all babies, including premature infants.<sup>19</sup>

Lust<sup>20</sup> found an antiproteolytic ferment in the blood of an infant fourteen days old, which had the same antitryptic power as that in the blood of an infant of one year. There is no increased formation of this ferment in digestive disorders, while in some cases of alimentary intoxication, in which there is loss of protein from the body, there is an increased amount of the antiferment.

Mitra<sup>21</sup> was unable to find nuclease or connectivase, which could digest muscle fiber and connective tissue, in the stomach of an infant twelve months old, but found both ferments in a child of fifteen months. Rossi<sup>22</sup> measured the stimulating effect of saliva on the pepsin digestion by the Mett method. It was found greatest in the early stages of digestion and became almost imperceptible at the end of four hours. Wakabayashi and Wohlge-muth<sup>23</sup> found that the large intestine contains erepsin, nuclease, hemolysin and a fibrin enzyme.

The changes which protein undergoes during digestion may be briefly enumerated as follows:

When it is ingested it is split and hydrolyzed by the various ferments in a definite sequence. Pepsin reduces it into albumoses and peptones. Trypsin and erepsin then split these bodies further into amino acids, with an intermediary stage of polypeptides. The end products of protein digestion are amino acids and their combinations, and it is absorbed in this form. The amino acids have been found in the tissues of the body and the serous cavities,<sup>24</sup> where they are used for various purposes and are finally excreted through the kidneys, principally in the form of urea and ammonia.

II. *Milk*. — It is not necessary to discuss in detail the difference in the proteins of human and cow's milk; it has been shown that there is about 1.56% of protein in human milk, of which about one third is casein and two thirds is lactalbumen (Koenig), while there is between 3% and 4% of protein in cow's milk, 85% of which is casein and 14.3% is lactalbumen (Hammersten). There is, therefore, much more casein in cow's milk than in human milk, and it coagulates more readily and in a tougher curd than does that of human milk.<sup>25</sup>

III. *Casein curds*. — Biedert believed that the bean-like masses which appear in the stools of artificially fed babies during disturbances of digestion were either casein or one of its derivatives. He found that their microscopic appearance was similar to that of coagulated casein and that they turned pink with Millon's reagent. Wegscheider,<sup>26</sup> Uffelmann,<sup>27</sup> Escherisch,<sup>28</sup> and Fr. Müller<sup>29</sup> were unable to confirm Biedert's assumption and concluded from their own experiments that the "so-

called casein curds" were formed of calcium soaps, epithelium, bacteria and intestinal secretions. It was shown, furthermore, that Biedert's methods of proving the presence of casein<sup>30</sup> are of no positive value since nucleo-protein and nucleo-albumen give the same tests.

Talbot<sup>31</sup> showed that there are two kinds of curds, one of which is large and tough and contains a high percentage of protein, and the other which is small and soft and contains a low percentage of nitrogen and a high percentage of fat. The former are tough, bean-like masses of varying size and shape, weighing from  $\frac{1}{4}$  to  $1\frac{1}{2}$  gm., the color varying from white to greenish-yellow according to how much they are stained by the bile and intestinal secretions. They may be easily separated from the fecal material in which they are imbedded and become extremely hard when treated with 10% formaline solution. These curds are the ones examined by Biedert. The small, soft curds are either flat, white flakes (which look like undigested particles of milk) or pinhead elevations, which are stained green or yellow by the intestinal secretions. They are always associated with more or less mucus and are composed almost entirely of fat in the form of fatty acids or soaps. These curds are probably the ones examined by Biedert's opponents.

Knöpfelmacher<sup>32</sup> and Selter<sup>33</sup> examined the tough curds chemically and concluded that they were composed of casein. These experiments were not considered conclusive by most pediatricians, especially those of the school of Czerny and Heubner, while Biedert and many American schools thought that they were casein. Wernstedt<sup>34</sup> compared the tough curds found in the stool with those found in the stomach under the microscope and microchemically, and concluded that they were casein.

Recently several writers,<sup>35</sup> working at approximately the same time with three different methods, showed by the precipitine method, by anaphylaxis, and by complement fixation that the protein in tough curds was cow casein. None of these methods were sufficiently fine to tell whether some of the casein was changed into paracasein or not.

When milk curdles in the infant's stomach it entangles a large proportion of the milk fat in its meshes and only such fat as lies near the surface of the curd can be reached by the digestive juices. The amount of fat in the curd depends upon the amount of fat in the milk.<sup>31</sup> Courtney<sup>36</sup> did not find any great variation in the percentage of fat in the curds examined by her. This is what would be expected, however, because there was no great variation in the percentage of fat in the food of the babies passing the curds. She went further and examined the stool mass surrounding the curds and concluded that the casein curds are not pathognomonic of any pathological condition, that the loss of food occasioned by their formation and the impairment of the general nutrition resulting from it is insignificant. Finally, that in attempting to correct the state of digestion one should be guided by the general rules of infant feeding, paying only

secondary attention to the appearance or disappearance of curds from the stools.

Ibrahim<sup>37</sup> and Brennemann<sup>38</sup> observed that the casein curds appeared in stools of babies fed on raw milk and disappeared from the stools when the milk was boiled. They both suggest this as a therapeutic measure for preventing the formation of such curds. Courtney (*loc. cit.*), on the other hand, records a case in which a baby (E. A.) was fed on boiled milk and in whose stools tough curds appeared. They may also appear in the stools of babies fed on milk containing cereal diluents and lime water in small amounts, i. e., lime water, one seventh of the milk and cream in the mixture. Ibrahim observed that the curds seem to come more easily in babies with digestive disturbances, but that they may come in otherwise healthy babies who are fed on raw milk. He saw them in a two and one-half year old child which had a typical "digestion-insufficiency" as described by Heubner.<sup>39</sup> The most recent experiments of Uffenheimer<sup>40</sup> seem to indicate that casein is present in the stools more frequently than was formerly thought, as it has been found in the salve-like, skimmed milk stools.

Selter<sup>41</sup> describes a picture of "intoxication" in which there is an excursion of temperature from 37° to 34° (i. e., subnormal), slow pulse and superficial respiration. The color of the skin is bluish-gray. The urine contains no reducing substance. The stools are curdy and grayish-yellow, with a cheesy odor. The urine contains a kenotoxine, which, when injected into mice, causes a condition similar to that described in the babies. The disease is cured by small amounts of breast milk, or by carbohydrates, and is attributed to the proteins. Monrad<sup>42</sup> does not believe with Finkelshtein and his followers that casein is absolutely harmless, but thinks that it can cause dyspepsia.

IV. *General considerations: difference in absorption of human and cow's milk nitrogen.*—In most instances less nitrogen is taken in the food of naturally fed babies than in that of artificially fed ones, but when approximately the same amounts of each are ingested there is less fecal nitrogen in the artificially fed babies than in those fed naturally.<sup>43</sup> The nitrogen in the feces of both naturally and artificially fed babies increases, other things being equal, with an increase of nitrogen in food. There may, however, be considerable variations in the nitrogen excreted by the same child on the same food if the observation is continued over a long period of time, as is shown by the work of Cronheim and Müller.<sup>44</sup>

*Starvation stools.*—Experiments on animals and man have shown that during starvation there are only small amounts of nitrogen in the feces, that when a nitrogen-free food is given there is considerable increase in the fecal nitrogen<sup>45</sup> and that there may be more nitrogen in the stools on a nitrogen-free food than on one containing a large amount of nitrogen. It may be assumed, therefore, that the animal albumins are probably completely or almost absorbed in health. It is evident also that the nitrogen in the feces comes

principally from the intestinal secretions and the intestinal bacteria.

Keller<sup>46</sup> found that a baby excreted 0.74 g. nitrogen per day in one experiment and 0.097 g. in another, while undergoing starvation.

It would be expected that when the amount of food is increased there would be an increased flow of digestive juices, but figures do not bear out this assumption. (Orgler: *Loc. cit.*) Vegetable nitrogen is digested and absorbed with greater difficulty than animal nitrogen. Wohlgemuth<sup>47</sup> found that he could cause an increased flow of pancreatic juices in a man with a pancreatic fistula by feeding carbohydrates and that protein caused a less profuse flow.

**Metabolism: Starvation.**—Keller's baby No. 6 lost 0.42 gm. of nitrogen per day per kilogram of body weight during a period of starvation; three weeks later, after forty-eight hours of starvation it lost 0.34 gm. nitrogen per kilogram of body weight. During the first day of starvation the nitrogen lost from the body may come from the nitrogen store of the body and after that from the glycogen, as it does in the adult.

When the amount of protein in the food is increased there is increased retention of nitrogen.<sup>48</sup> Babies, unlike adults, are able to retain nitrogen even when they are not receiving the required number of food calories.

When the total carbohydrate of the food is replaced by fat of an equal caloric value in adults, there is a considerable albumen deficit.<sup>49</sup> If only a part of the carbohydrate is replaced by fat, the body will eventually return to a nitrogenous equilibrium. Orgler believes that in normal babies, however, the amount of fat in the food influences the nitrogen metabolism to only a slight degree. Increasing the fat in the food of babies that do not digest fat well may, on the other hand, result in a negative nitrogen balance. It is not known whether the action of the fat of human milk and of cow's milk is the same or not. In Courtney's cases<sup>50</sup> the nitrogen retention was higher in those babies which showed a very considerable gain in weight in the course of the experiment and were, therefore, in the stage of convalescence. Fat does not seem to have the property of sparing protein.

Carbohydrates, on the other hand, have a marked property of sparing nitrogen.<sup>51</sup> Cane and milk sugar have the same action as malt sugar. (Orgler.) When they are added to the food there is usually an increase in the nitrogen retention. When carbohydrates are given in excess, they cause increased peristalsis, frequent stools and a considerable loss of nitrogen from the body.<sup>52</sup>

The growing body requires protein from which to build up the body tissues, muscles, etc., while carbohydrates and fats are used as fuel. It is obvious, therefore, that more protein or nitrogen must be ingested than is excreted in order that the needs of the growing tissues may be supplied. The osseous system, in the same way, requires mineral salts for its growth, and more salts must be ingested in the food than are lost in the excreta. These salts which are retained in the body are

used to build up new bone. When the baby is gaining weight and strength, there is a retention of both nitrogen and salts, and when the baby is not gaining, there may be a loss of both of these bodies. When one is retained in the body the other is apt to be retained, and vice versa, as shown by Orgler's baby No. 9.<sup>53</sup>

The metabolism of breast-fed babies can be compared more easily than that of bottle-fed babies because the food, i. e., breast milk, is essentially the same in all cases, while that of artificially fed babies differs a great deal. Orgler found that in general there is more nitrogen retained per kilogram of body weight in young babies than in older babies; that is, the retention decreases as the baby grows older. This fact corresponds with the periods of greatest growth of the baby.

Both the retention and the utilization of nitrogen must be taken into consideration when the various cases in literature are compared. Utilization represents the amount retained as compared to the amount in the food. The following table taken from Schwarz gives an idea of utilization:

Age,	Up to 14 days.	2-3 months.	5 months.
Retention,	0.351	0.153	0.048
Utilization,	78.3%	40.8%	23.1%

The foregoing table shows that the younger the baby is, the greater is the retention and utilization of nitrogen.

This corresponds with clinical observations of growth, for the very young baby grows very rapidly and, therefore, retains and uses more nitrogen in building up new body tissue than the older baby which does not increase so rapidly in size. Under certain conditions of under-nourishment, an increase in the amount of nitrogen in the food results in an increased retention of nitrogen and improvement in the general condition of the baby. In other conditions an increase of the food nitrogen causes greater retention but not necessarily gain in weight. There is no explanation of why this increase in the retention of nitrogen does not necessarily benefit the baby. Sick infants cannot retain as much nitrogen as well babies of the same age. Fife and Veeder<sup>54</sup> found that two cases of infantile atrophy had a greater retention of nitrogen than normal babies of the "same age and weight." The question may be raised, however, as to whether the babies examined could have been atrophic if they were of the same weight as normal babies of the same age. When the amount of carbohydrate in the food was increased there was increased retention of nitrogen, but the nitrogen retention was not influenced by the amount of fat in the food.

Orgler<sup>55</sup> summarizes the present knowledge as to the retention and utilization of nitrogen in infancy as follows:

- (1) Healthy artificially fed babies show the same or even higher retention of nitrogen than healthy breast-fed babies of the same age.
- (2) Nitrogen retention in the sick artificially fed baby is as good as in the sick breast-fed baby.
- (3) Healthy infants often show a higher re-



tention of nitrogen when given proper cow's milk mixtures than when on the breast.

(4) The utilization of nitrogen may be as good or even better in the artificially fed than in the breast fed.

It is hard to reconcile these conclusions of Orgler with the universal experience that babies that are fed on human milk are stronger and more vigorous than those fed on cow's milk. It seems probable that some other factor or factors, at present unknown, are more important than simple nitrogen retention and utilization.

Metabolism experiments have not been carried out on a sufficient number of babies, moreover, to justify us in believing that Orgler's conclusions are final.

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- <sup>54</sup> Studies on the Metabolism of Atrophic Infants. Am. Jour. Dis. Child., 1911, ii, 19.
- <sup>55</sup> Der Eiweissstoffwechsel des Säuglings. Ergebn. d. inn. Med. u. Kinderh., 1908, ii, 464.

## Reports of Societies.

## THE MASSACHUSETTS MEDICAL SOCIETY.

## ANNUAL MEETING OF THE COUNCIL.

The annual meeting of the Council of The Massachusetts Medical Society was held in the Massachusetts General Hospital, Boston, on June 11, 1912, at twelve o'clock noon. The President, Dr. George B. SHATTUCK, in the chair, and the Vice-President, several Presidents of District Societies and ninety-eight Councilors being present.

The Treasurer, DR. BUCKINGHAM, read his annual report, showing receipts during the year ending April 14, 1912, of \$32,127.40, and expenses of \$18,426.97, leaving a balance in the treasury of \$13,700.43. The Committee on Membership and Finance reported through the chairman, DR. Goss, recommending that the resignations of ten Fellows be accepted, that the dues of one Fellow be remitted, the names of ten Fellows be placed on the retired list and that \$4,000 of the surplus in the treasury be distributed among the district societies.

Voted, To accept the report and adopt its recommendations.

Four petitions of Fellows to be restored to the privileges of fellowship were read by the Secretary, and committees were appointed to consider these petitions.

DR. ERNST, for the Committee on Medical Education, submitted an extended report, which is on file.

DR. WITHINGTON, for the Committee on State and National Legislation, submitted the appended report for the past year.\*

DR. WITHINGTON also submitted a report as a delegate to the conference of the American Medical Association on Legislation and Public Health in Chicago.

DR. M. W. Richardson submitted the following report for the Committee on Public Health:

The committee as originally appointed by the President consisted of Dr. M. W. Richardson, Jamaica Plain; Dr. M. J. Rosenau, Brookline; Dr. L. A. Jones, North Adams; Dr. C. B. Stevens, Worcester; Dr. Roger I. Lee, Boston. Dr. Stevens declined to serve, however, and Dr. W. Irving Clark, of Worcester, was appointed in his stead.

The committee met and organized April 24, 1912. Dr. Richardson was elected chairman and Dr. Lee was elected secretary.

The grounds for the appointment of such a committee need but little comment, for great as have been the triumphs of medicine and surgery in the past fifty years in the cure of disease, these triumphs are bound to be of minor importance when compared with those of the next fifty years in disease prevention. Your committee considers its peculiar function to be that of education, — not so much, in the first instance, education of the laity, but rather, education of the medical profession. The physician once shown the direction in which progress lies, must then take upon himself the responsibility of leading aright the lay members of his community.

In the opinion of your committee, its future activities will fall naturally into two divisions: First, general measures for the improvement of the public health; and, secondly, more concentrated action on special subjects.

In the first instance, the committee expects to co-operate closely with local district societies. It suggests, further, that each district society have at least one meeting each year devoted entirely to public health matters. Through the agency of the district societies, moreover, the committee hopes that the general character of the local boards of health may be raised to a considerable extent. In its efforts along more particular lines of activity, your committee intends to concentrate its energy upon a few of the more important problems rather than to spread itself over a broad field. Tuberculosis, for example, can be well taken care of by the Society's Associated Committees on Tuberculosis. For future action, school inspection, sex hygiene and the prevention of venereal diseases suggest themselves as problems especially worthy of investigation. For immediate action, the committee considers the milk situation as being most pressing. The solution of this problem does not seem to your committee as difficult as commonly supposed. It requires only that milk shall come from clean, healthy animals and that it shall be handled in a cleanly manner by healthy human beings. These are points upon which a physician is capable of forming a sufficiently expert opinion. Your committee, therefore, recommends that the Fellows of The Massachusetts Medical Society be urged most earnestly to inquire into the methods of milk production in their respective neighborhoods; to patronize for their own part and to recommend to their patients those dairymen only who, healthy themselves, sell clean milk, drawn from healthy cattle, not forgetting that such dairymen deserve a higher price for their product and that consumers can well afford to pay more for increased assurance against disease.

\* See page 974.

Your committee stands ready to assist in every possible way the efforts of the Fellows in instituting such a campaign.

MARK W. RICHARDSON, *Chairman*.  
M. J. ROSENAU.  
L. A. JONES.  
W. IRVING CLARK.  
ROGER I. LEE, *Secretary*.

The Librarian, DR. BRIGHAM, submitted his annual report, and it was accepted.

The Nominating Committee brought in the following list of officers:

Walter P. Bowers, Clinton, *President*;  
Francis W. Goss, Roxbury, *Vice-President*;  
Walter L. Burrage, Boston, *Secretary*;  
Edward M. Buckingham, Boston, *Treasurer*;  
Edwin H. Brigham, Brookline, *Librarian*;

and they were elected by ballot.

Upon nomination by the Nominating Committee, DR. HOMER GAGE, of Worcester, was appointed Orator for the Annual meeting in 1913.

The following standing committees were appointed:  
*Of Arrangements*: A. N. Broughton, John Homans, Beth Vincent, W. W. Howell, J. D. Barney, E. L. Young, Jr.

*On Publications*: G. B. Shattuck, E. W. Taylor, R. B. Osgood.

*On Membership and Finance*: F. W. Goss, Walter Ela, C. M. Green, A. Coolidge, Samuel Crowell.

*To Procure Scientific Papers*: F. P. Denny, J. S. Stone.

*On Ethics and Discipline*: J. A. Gage, J. W. Bartol, Henry Jackson, G. DeN. Hough, S. B. Woodward.

*On Medical Diplomas*: O. F. Rogers, H. W. Newhall, J. F. Burnham.

*On Medical Education*: H. C. Ernst, H. D. Arnold, C. H. Williams.

*On State and National Legislation*: W. P. Bowers, C. F. Withington, F. G. Wheatley, Elisha Flagg.

*On Public Health*: M. W. Richardson, M. J. Rosenau, L. A. Jones, W. I. Clark, R. I. Lee.

Vacancies in the Boards of Censors were filled by the following appointments: Bristol North, — W. Y. Fox, Taunton; Hampden, — D. J. Brown, Springfield; Suffolk, — C. N. Cutler, Chelsea.

In the list of Councilors as follows: Hampden, — D. E. Keefe, Springfield.

DR. G. W. GAY explained the provisions of the new Owen Bill, Senate Bill No. 1, and stated that it had the cordial approval of the authorities in Washington. He made a motion that a committee of five be appointed by the chair to present resolutions with reference to this bill to the annual meeting of the Society next day, and it was so voted.

The President appointed the following committee: G. W. Gay, H. P. Walcott, S. H. Durgin, M. J. Rosenau, J. F. A. Adams.

DR. A. T. CABOT offered the following motion:

*Moved*, That a Section of Tuberculosis be established and that its officers be elected as in the other sections of the Society in accordance with the vote of the Council of Feb. 1, 1911;

And it was so voted.

#### SECTION MEETINGS.

Papers were read before the Sections as follows:

"Medical Aspects of Intestinal Adhesions and Ptooses," Dr. James Marsh Jackson, Boston. "Surgical Aspects of Intestinal Adhesions and Ptooses," Dr. Joseph Ransohoff, Cincinnati. "Alimentary Aberra-

tions; the Roentgen Rays as a Factor in their Diagnosis," Dr. Percy Brown, Boston. "Neurological Aspects of Injuries to the Cranium and Spinal Column," Dr. E. W. Taylor, Boston. "The Surgical Treatment of Head Injuries Affecting the Brain," Dr. John Homans (read by Dr. C. C. Simmons). "The Surgical Treatment of Injuries Affecting the Spinal Cord," Dr. John T. Bottomley. "The Indications for the Performance of the Major Obstetrical Operations," Dr. Franklin S. Newell, Boston. "The Operative and Post-Operative Treatment of Acute Infectious Joints," Dr. Edward H. Nichols. "The Salvarsan-Calomel Treatment of Syphilis," Dr. William F. Boos, Brookline. "The Filterable Viruses," Dr. Simeon B. Wolbach, Boston. "Some of the Uses of the X-rays in Medicine and Surgery," Dr. Walter J. Dodd, Boston. "The Significance of Symptoms in Tuberculosis," Dr. H. D. Chadwick, Westfield. "The Treatment of Tuberculosis by Artificial Pneumothorax," Dr. Gerardo M. Balboni, Boston. "The Use of Lactic Acid Soured Milk, and Lactic Acid Bacilli in Pulmonary Tuberculosis," Dr. P. C. Bartlett and Dr. C. V. Murphy, Rutland.

Officers of the Sections for the ensuing year were elected by the Sections as follows;

Section of Surgery — Chairman, J. T. Bottomley, Boston; Secretary, R. B. Osgood, Boston.

Section of Medicine — Chairman, H. D. Arnold, Boston; Secretary, T. J. Eastman, Boston.

Section of Tuberculosis — Chairman, J. F. A. Adams, Pittsfield; Secretary, J. B. Hawes, 2d, Boston.

The Shattuck Lecture was delivered in the Boston Medical Library in the evening by Dr. David L. Edsall, of Philadelphia and St. Louis; subject, "The Clinical Study of Respiration."

#### ANNUAL MEETING OF THE SOCIETY.

The society met in John Ware Hall, Boston Medical Library, on Wednesday, June 12, 1912, at 9.30 o'clock, the President, Dr. GEORGE B. SHATTUCK, in the chair, and 180 present during the morning.

The Secretary announced that during the past year the society had gained 135 new Fellows, 3 had been restored to the privileges of fellowship, there had been 48 deaths, 47 deprivations of the privileges of fellowship, 21 resignations and 1 expulsion, leaving the total membership, 3,382.

The following amendments to the By-Laws were read by the Secretary, put to a vote, and passed unanimously.

"By-Law 9 (page 11, line 11), insert the words 'or practicing' after the word 'residing.'"

"Add to this By-Law the following: Any Fellow wishing to change his membership from one District Society to another may petition the Council in writing to grant such change, stating his reasons therefor. Such petitions shall be referred to the Committee on Membership and Finance, who shall consider the petitions, shall consult with the officers of the two Districts involved in the change, and shall report recommendations to the Council. The Council shall decide by vote whether or not such petitions shall be granted."

Papers were read as follows;

"The Doctor Who Volunteers for Military Service in Time of War," Dr. Charles C. Foster, Cambridge. "Blood Transfusion: Indications, Methods, and Results," Dr. Beth Vincent, Boston. "The Teeth and Their Relation to the Body," George H. Wright, D.M.D., Brookline. "Pasteurization of Milk," Dr.

Milton J. Rosenau, Brookline. "The Effect of the Pasteurization of Milk on Babies," Dr. John Lovett Morse, Boston. "The Present Status of Salvarsan," Dr. Abner Post, Boston.

DR. GEORGE W. GAY presented the following preambles and resolutions, which were passed unanimously:—

*Whereas*, Senate Bill No. 1, as amended and recommended for enactment by the Senatorial Committee on Public Health and National Quarantine in their Report No. 619, known as the "Owen Bill," and having for its object the co-ordination of the present public health bureaus of the United States government into one independent health service, is the simplest and most complete and practical measure yet submitted for consideration; and

*Whereas*, Briefly stated, the Owen Bill provides for the formation of an independent establishment to be known as the United States Public Health Service, which shall comprise the Public Health and Marine-Hospital Service now under the Treasury Department; that portion of the Bureau of Chemistry having to do with pure foods, drugs and liquors now under the Department of Agriculture; the Bureau of Vital Statistics, now under the Department of Commerce and Labor; and such other bureaus having to do with public health as the President may from time to time assign to this service;

The said Public Health Service shall be in charge of a Director of Health to be appointed by the President for a term of six years at an annual salary of six thousand dollars. He shall have three assistants, to be known as Commissioners of Health, two of whom shall be skilled sanitarians representing respectively the Public Health and Marine-Hospital Service and the Pure Food and Drug Section of the Bureau of Chemistry; the third shall be a skilled statistician and represent the Bureau of Vital Statistics. And

*Whereas*, The bill does not alter the status or curtail the rights, privileges, duties or powers of any officer or bureau concerned in the proposed measure; and

*Whereas*, All interference with medical schools, methods of practice, choice of physicians, etc., is definitely prohibited in this act; and

*Whereas*, There are already in existence several independent services and commissions doing good work, as, for example, the Interstate Commerce Commission, the Civil Service Commission, the Government Printing Office, the Isthmian Canal Commission and the International Waterway Commission, all serving as worthy precedents of the desired public health service; and

*Whereas*, The proposed independent health service meets with the hearty endorsement of a large proportion of the leading health authorities of the country, as promising a more efficient organization of the various health activities for promoting and conserving the health of the people than has hitherto prevailed; now, therefore, be it

*Resolved*, By The Massachusetts Medical Society in annual session assembled, that the Honorable Senators and Representatives of this Commonwealth be and they are hereby most earnestly petitioned to actively favor the enactment of the Owen Bill, now before the United States Senate, purely in the interests and welfare of the general public.

*Resolved*, That a copy of these resolutions be sent to each Senator and Representative of Massachusetts, to Senator Robert L. Owen, to the BOSTON MEDICAL

AND SURGICAL JOURNAL, and to the *Journal of the American Medical Association*.

GEORGE W. GAY,  
SAMUEL H. DURGIN,  
HENRY P. WALCOTT,  
J. F. A. ADAMS,  
M. J. ROSENAU,

*Committee of The Massachusetts Medical Society.*

DR. A. T. CABOT presented the following proposed amendment to the By-Laws, which was accepted and ordered placed on the notice of the next annual meeting.

"Amend Section 14 of the By-Laws by adding after 'State and National Legislation,' line 33, the words 'on Public Health.'"

The annual discourse was delivered by Dr. WALTER E. FERNALD, Superintendent of the School for the Feeble-Minded, Waverley; subject, "The Burden of Feeble-Mindedness."

The annual baseball games between nines from the District Societies were played on the grounds of the Chestnut Hill Golf Club. This year there were five nines, and the perpetual challenge cup was awarded the nine from the Suffolk District.

The annual dinner was given in the Mechanics Building, and in the evening, for the first time in the history of the Society. Dinner was served to 940 Fellows and guests. The President acted as toast-master, and after sketching the activities of the Society during his incumbency in office, introduced the following speakers; His Honor Robert Luce, Lieutenant-Governor of Massachusetts; President Lowell, of Harvard University; President MacLaurin, of the Massachusetts Institute of Technology; Mr. W. G. Thompson, of the Boston bar; Dr. Joseph Ransohoff, of Cincinnati; Dr. David L. Edsall, Jackson Professor of Clinical Medicine in the Harvard Medical School; and Dr. Walter P. Bowers, of Clinton, the President-elect.

WALTER L. BURRAGE,  
*Secretary.*

#### REPORT OF THE COMMITTEE ON STATE AND NATIONAL LEGISLATION OF THE MASSACHUSETTS MEDICAL SOCIETY.

JUNE 11, 1912.

At the time of writing this report, the legislative session is nearly over and the report is, therefore, nearly complete of the work of the Massachusetts Legislature for the year. We regret to say that this work has not been in all respects as satisfactory as we could wish. Certain measures have been defeated, among them the following:

Three antivaccination bills, one of which was specially specious, in that it sought to promote the purity of vaccine virus. The conditions which it imposed were so impossible of fulfillment as to be prohibitive of vaccination.

An antivivisection bill was introduced this year.

The report of the Board of Registration in Medicine contained certain recommendations which were also supported by bills offered independently and these recommendations were lost, one of them for the modification of the present registration law, which would definitely put certain classes of practitioners under the ban of the law. This aroused great opposition of Christian Scientists and others, as did also the attempt to make a legal definition of what constitutes the practice of medicine.

The much more important requirement of a degree as a pre-requisite for taking the examination of the

Board in medicine was also defeated, largely through the efforts of one of the medical schools whose diplomas are not recognized by this Society.

A similar attempt to require a degree in dentistry as a pre-requisite for the dental registration was also lost.

A bill for providing a state inspector, appointed by the Governor, for training schools for nurses was defeated. It seems that inspection of training schools for nurses, if maintained, should be under the Board of Education, or some other competent authority.

Fortunately, some attacks upon the Board of Registration in Medicine were successfully opposed, one for a revision, by outside authority, of their decision with regard to the registration of candidates.

Also a bill for the consolidation of the Board of Registration in Medicine with other boards.

A bill to increase largely the number of medical examiners in the state, which was opposed by the Society of Medical Examiners, failed. An increase of one medical examiner for Suffolk County was asked for and obtained.

A bill to transfer the control of school physicians from the Board of Health to the School Committee, and another one to transfer the control of school nurses to the Board of Health, were both lost. It seems desirable that both the school physicians and school nurses should be under one authority.

Bills for the establishment of homes for public women, for instruction in venereal diseases and for the prevention of venereal diseases, were lost.

A bill to encourage marriages by means of tax on bachelors was offered but lost. It proposed a tax of \$5.00, which should be collected unless, as is naively said, the bachelor could prove to the satisfaction of said city or town that he is not of good moral character or that he is otherwise unfit for matrimony.

Various bills for the regulation of registration of practitioners of massage were lost, with the exception of one which was of the nature of a relief measure, so that massage operators should not be required as heretofore to take out a license in each town in which they may operate.

A bill was offered and lost, repealing the law which prohibits the erection of an isolation hospital within one hundred rods of an adjoining town, without the consent of said adjoining town.

A bill was introduced by Representative Gifford, a member of this Society (House Bill 109), for the appointment by the Governor of a board of experts in insanity which should, on the request of the court, counsel for the defense or the district attorney, determine the mental state of any person who pleads insanity in extenuation of any alleged crime. The principle of this bill commended itself to the committee, but the joint Committee of the Judiciary, to which it was referred, found it unconstitutional as possibly prejudicing the rights of the accused.

Many milk bills were under consideration, most of them designed to give a greater control over conditions in the production and distribution of milk. These, by a process of elimination, were reduced to two; one, the Meaney bill (House 1571 and 2124), which gave the power of making regulations to a paid board of six, three to be chosen by the State Board of Health and three by the State Board of Agriculture, the administration of these rules to be under local boards of health.

The other, the so-called Ellis Bill (House 2244), was favored by the Milk Consumers' League and also by your committee. It gave the framing of rules for milk production and transportation to an unpaid board of five, two to be learned in medicine or bacteriology, two to be milk producers and one a sanitarian.

The administration of these bills was placed in a milk division to be established by the State Board of Health. This latter measure, which concentrated executive responsibility in the highest health authority of the state, was opposed by some of the farmers and was defeated. It was substantially the same measure which was passed last year and vetoed by the Governor. Its failure produced the regrettable result that no milk legislation directed to the reduction of infant mortality was passed during the year.

An optometry bill was offered, as has been the case for a number of years, was rejected by the Committee on Public Health, and on being substituted in the House for adverse report, was again rejected by the Committee on Ways and Means, but, by the aid of a very powerful lobby, which was reported to be abundantly supplied with the sinews of war, it passed both Houses and has been signed by the Governor, who was not left in ignorance of the opposition of the medical profession to the bill.

Of other bills actually passed during the session, the following are of medical interest.

An act (Chap. 263) forbidding the sale, without poison label, of insecticides containing fluorin.

An act (Chap. 532) strengthening the existing laws against the sale of liquors to minors.

An act (Chap. 463) as to notice of intentions of marriage, requiring a delay of five days from the entry of the original intention for the certificate authorizing marriage, but providing that in certain cases of emergency this delay may be set aside by a judge.

An act (Chap. 280) requiring a notification of the fact of all births within the first forty-eight hours after the birth occurs. The other data constituting the birth record hitherto required may be made with this notification but, if not, must be made separately within fifteen days.

An act (Chap. 334) authorizing every city except Boston, in its building ordinances, to include provisions for the preservation of life, health and morals, in addition to the prevention of fire and other supervision hitherto allowed.

Two bills, Chap. 637, to encourage the building of tuberculosis hospitals, and a resolve, No. 112, for a definite policy of the treatment of tuberculosis.

An act (Chap. 442) providing that all hospitals supported wholly or in part by contributions from the Commonwealth or the municipality, and incorporate hospitals offering free treatment and conducted as public charities, shall keep records of the treatment of cases and the medical history, and such records shall be admissible in the courts of the commonwealth so far as they relate to the treatment and medical history of the cases, *but nothing therein contained should be admissible as evidence which has reference to the question of liability.*

An act (Chap. 468) providing that citizens of the state shall be given preference in admission to the Rutland State Sanatorium; that no person shall be readmitted who has not been a resident of the commonwealth for six months.

An act as to the construction of tenement houses (Chap. 635) is of great importance, and provides, among other things, in the case of a corner lot, that only 65% of the area shall be built upon, and of all other lots, only 50% shall be built upon. That each tenement shall have 20 feet of frontage on the street; that the total window area shall be at least one seventh of the floor area; that in each apartment there shall be at least one room containing 150 square feet; that each apartment should have a separate water closet; that no closet should be in the cellar and no living rooms in the cellar.

An act (Chap. 530) placing the new hospitals for dipsomaniacs in the towns of Norfolk and Walpole under the administration of the trustees of Foxboro Hospital.

An act (Chap. 489) prohibiting untrue and misleading advertisements. This act at first appears to be prohibitory of patent medicine advertisements, but careful reading of it seems to indicate that they will go as heretofore, unscathed.

An act (Chap. 109) providing that the State Board of Health may furnish antityphoid vaccine.

An act (Chap. 448) increasing the powers of the boards of health. This matter is of great importance and was asked for because the courts, notably in the famous "Diptank" decision, had ruled that, in the absence of specific legislation, boards had no power to make and enforce certain rules deemed by them to be essential for public health. This bill provides that local boards of health may make rules and regulations, subject to the approval of the State Board of Health.

Another provision refers to the keeping and exposing for sale articles of food. Also, allowing the inspection of carcasses of slaughtered animals, with the right of access to all places where they are kept.

An act limiting the hours of work for women and minors in factories to fifty-four hours per week.

An act (Chap. 243) providing for inquests in accidents on railways and street railways, and another (Chap. 496), requiring that stenographic reports of inquests that are held on victims of such accidents be furnished to the Board of Railway Commissioners at the expense of the roads concerned.

Resolves passed appropriating \$5,000 for the investigation of infantile paralysis, and varying some for other purposes, including the extermination of mosquitoes, improvements to the Boston State Hospital, in favor of the Massachusetts Charitable Eye and Ear Infirmary and others.

Your committee, under instruction from the Council, sent communications to the representatives and senators in favor of the re-establishment of the canteen, and answers were received from a number of them, of which the majority indicated that the writers were in favor of this measure.

GEORGE B. SHATTUCK,  
Chairman.  
CHARLES F. WITHINGTON,  
Secretary.

## Book Review.

*New and Non-Official Remedies, 1912.* Containing Descriptions of the Articles which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to Jan. 1, 1912. Chicago: American Medical Association, 1912.

The issue of this volume for 1911 was reviewed in the number of the JOURNAL for July 27 of that year (vol. clxv, p. 140). This issue is a reprint of the former with the addition of some new material making altogether an increase of fifteen pages of text. It is a useful work whose annual reappearance marks and records the progress of legitimate constructive pharmacology.

# THE BOSTON Medical and Surgical Journal.

THURSDAY, JUNE 27, 1912

*A Journal of Medicine, Surgery and Allied Sciences, published at Boston, weekly, by the undersigned.*

**SUBSCRIPTION TERMS:** \$5.00 per year, in advance, postage paid, for the United States, Canada and Mexico; \$6.50 per year for all foreign countries belonging to the Postal Union.

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## CHANCE AND THE PRÉPARED MIND IN MEDICINE.

In the issue of *Science* for June 21, under the title "Chance and the Prepared Mind," is published an address on medical education delivered at Syracuse University on May 21 by Dr. Richard M. Pearce, of the University of Pennsylvania. In connection with Dr. Abraham Flexner's report on "Medical Education in Europe," on which we commented editorially in last week's issue of the JOURNAL, this address of Dr. Pearce's is of particular interest as representing some of the ideals which are recognized and towards which we are striving in American medical education.

Starting with Pasteur's famous utterance that "in the fields of observation chance favors only the mind which is prepared," Dr. Pearce follows step by step the methods whereby modern education seeks to supply this training, this preparedness, to students in the natural sciences, particularly in medicine. Foremost among these he emphasizes the importance of the preliminary education of the individual. He believes two years of college training the minimum requirement that should be accepted in this respect, and declares that these years should at least have produced familiarity with laboratory work in physics, chemistry and biology.

As to methods of teaching in the medical school, Dr. Pearce believes that the instruction, in both laboratory and clinical branches, should be based so far as possible on the method of observation and experiment.

"There are, of course, limitations to the application of this method, as lack of time, an overcrowded curriculum, inability on the part of the teacher fully to grasp the situation, and

failure always to maintain sustained effort on the part of the student; but its value over the lecture system is so great that it should be followed and should be supplemented by demonstrations and conferences or recitations rather than by lectures, if one truly seeks to prepare properly for the practice of medicine."

Most important of all, Dr. Pearce regards clinical instruction in a hospital owned or controlled by the university of which the medical school forms a part. The relation of the hospital to medical teaching and research is one of the essential educational problems of the day. Dr. Pearce emphasizes the importance of the academic freedom which comes only to teachers in such hospitals under university control.

"If the method of first-hand instruction, which I have outlined, is to be followed, then the hospital must become the laboratory of the clinical years and a school must own or absolutely control its hospital. This is necessary in order (1) that the heads of the clinical departments may have a continuous service under their immediate charge and to the conduct of which they may bring their own assistants; (2) that in connection with such service they may develop laboratories for teaching and research in addition to the usual clinical laboratory now used only for purposes of diagnosis; and (3) that resident physicians may be appointed for indefinite service in order that trained teachers and investigators in clinical medicine may be produced in the same way as trained teachers and investigators in the laboratory branches are now produced, and (4) that the head of the department may provide adequately for that intimate first-hand clinical instruction which can be secured only by placing the student in actual contact with the patient."

The value and meaning of such academic freedom in clinical teaching is perhaps most fully appreciated by those in whose experience efforts in this direction have been hampered by unsympathetic or intolerant hospital trustees.

In schools thus equipped, Dr. Pearce believes that a fifth year of hospital residence should soon be established as a requirement for the degree of doctor of medicine. Above all he believes that the entire course of medical education should be animated by the spirit of research, which is itself the motive power in scientific study. Without the temperament of trained investigation there can be no true progress in medical education. "Life is short and the art long, the occasion instant, experiment perilous, decision difficult." It is in such occasions, whether in the laboratory, in the clinic or in life, that the prepared mind reacts correctly and therefore acts, not by chance but by self-determination to the best end.



## A REVOLUTION IN CELEBRATIONS.

SINCE 1903, when the American Medical Association began in its journal an agitation against the Fourth of July celebrations that had obtained for nearly a century, there has been a progressive and gratifying decrease in the number of casualties attending this holiday. A brief review of this progress were at this time perhaps not amiss.

In and around the three holidays of 1907, 1908 and 1909, in the city of New York alone, the casualties from fireworks were 1339, more than those in the Revolutionary battles of Lexington, Bunker Hill, Fort Moultrie, White Plains, Fort Washington, Monmouth and Cowpens combined. These losses were in the main not among adults but rather among youths and little children. The sufferings of many among these latter were from tetanus, while among those that did not die many were maimed or sadly disfigured. In the six years ending with and including 1908 there were in the whole country 27,980 wounded and 1,316 deaths (776 from tetanus). In the nine years ending with 1911 the equivalent of over thirty-nine regiments were killed or injured in celebrating Independence Day.

During the past few years, however, the propaganda begun by the American Medical Association have been taken up by many newspapers and magazines, by many civic bodies and by many organized social activities. Among these the Russell Sage Foundation has had printed several informing and attractive pamphlets, showing how a safe and sane Fourth can be most pleasurably substituted for the old "brutal and bloody" Fourth. The good that all these activities have done is evidenced by the fact that whereas before 1911 long lists of injuries were recorded from hospitals, health boards, private practitioners and others, last year a large majority of such institutions and individuals reported none injured, while others gave comparatively small lists. There were, for instance, but 18 cases of tetanus, 54 less than for 1910; and 169 blank cartridge wounds, as against 450 in 1910. Examination of the evidence indicates that even these figures can probably be improved. Of the above 18 cases of tetanus, in only seven were antitoxin injections given; and in not a single instance was such injection made until after the active symptoms of lockjaw had developed. This serum is so valuable a preventive that there have been few cases in which lockjaw symptoms have developed after its prompt and timely administration. Practically all health de-

partments, state and municipal, are now open on Independence Day and have this beneficent agent available for immediate use by physicians on telephone application.

Among non-tetanus casualties in 1911 there were 47 deaths by various forms of fireworks. This was 74 less than in 1910, and 158 less than in 1909; but nevertheless every one of them was unnecessary and preventable. Eleven of these 47 last year were killed outright by firearms; nine by powder explosions, bombs or torpedoes, five by cannon, 2 by giant firecrackers and 8 by sepsis following injuries. Twelve of the 47 deaths were burnings to death—mostly little girls whose dresses caught fire by the "harmless" variety of fireworks, including "sparklers."

The most marked casualty decreases in 1911 were in the communities where the agitation for prohibitive or restrictive measures were strongest. For example, Boston had 3 casualties as against 190 in 1908; Milwaukee 19 as against 112 in 1910; Newark none as against 150 in 1909.

It may not be amiss to re-outline here the procedure essential for a Fourth of July wound: There should be free surgical incision under general anesthesia; enlargement of the wound if necessary, in order that the anaërobic tetanus bacillus may not find lodgment in pockets or fissures; thorough search for and removal of every particle of foreign matter (dirt, embedded wad and the like); all ragged or charred tissue should be cut away, and the wound thoroughly scrubbed with soap and water and irrigated with some sterile solution. This should be followed by the application of a loose, wet, boric acid dressing and the hypodermic injection of an immunizing dose of tetanus antitoxin (1500 units); the wound invariably to be kept open and allowed to heal by granulation, the dressing and the packing to be changed daily. Faithful observance of this procedure should reduce to a minimum the fatalities from tetanus, and the further development of an educated public opinion should in time put an end to all Fourth of July casualties of this nature.

## ECZEMA AS A SOURCE OF POETIC INSPIRATION.

On Jan. 21, 1769, there was born at Kassel, in Germany, Arnoldine Weissel, a minor German poetess, whose life and writings have a medical interest on account of the record which she has left, in prose and verse, of her dermatologic

afflictions. Her collected poems and other writings were first published in 1817 by Dr. Wish. From this original volume her biography was extracted by Strieder for his "Lives of Hessian Scholars and Authors," and thence in turn abstracted by Dr. Scheling in the issue of the *Deutsche medizinische Wochenschrift* for Aug. 24, 1911 (Vol. 37, p. 1566).

Fräulein Weissel, after a precocious education, became a governess, at the age of fifteen, in a family first in Göttingen, subsequently at Duisburg. While in the latter place she became afflicted with what she describes as "one of the most distressing diseases that can befall the human body." According to her statement, her ailment was diagnosed by her physician, Dr. Piderit, as "scabies humida," presumably a form of eczema. Despite his treatment, the malady showed no improvement. In her diary, the young lady describes vividly the sufferings which she endured for twenty-six weeks, almost without sleep. Finally, though she had never before been a poetess, she took refuge in the composition of verse upon the subject of her misfortune, and in a short time produced six poems, which were privately published by a friend and at the time attracted great attention. One of them, the most meritorious, entitled, "Consolation of a Good Conscience on the Sick-Bed," was written on the night of June 28, 1788, and is really a composition of considerable beauty and feeling.

All this time the lady records that she was being treated only by internal medication. After six months of sleepless suffering she besought her doctor to change the treatment to one of external applications, with the result that in a month she was completely cured and restored to the bloom of youth. A few years later, in 1792, she married Herr Wolf, of Schmalkalden, by whom she had nine children. It is stated that in spite of her restored health and domestic preoccupations, she continued to write poetry, though no other of her poems have been preserved except some verses to her son, published in 1814, while he was fighting in the Napoleonic wars. The date of Frau Wolf's death is not recorded.

Physical afflictions have been a cause of literary activity from the days of Job. Cyrano de Bergerac is said to have been driven to versification on account of his nasal deformity, and dyspepsia has been the making of many a philosopher besides Carlyle. Frau Wolf deserves to be preserved from oblivion as a humble member of this group of those who were goaded into literary expression by the sting of pain or disease. Her

memory is as interesting from the source of her poetic inspiration as it is from the piety of her sentiments or from the fact that it was she herself who suggested the change in treatment that apparently effected her cure.

#### COMMENCEMENT.

To every one of university training, the end of the academic year seems always to mark a period of completion distinct from that of the seasonal year that closes with the calendar. Commencement time is a time of fulfilment, of review, of sentimental return to old associations, and of the derivation therefrom, and from contemplation of the work achieved, of new inspiration for the future. Moreover it is the time when older and younger generations of scholars alike come from the world to renewed contact with academic ideals, old and new, to measure themselves by the absolute standards, to see what are their own shortcomings, and to readjust themselves by clearer vision.

It is perhaps this contact of old and young with each other and with the principles embodied in academic life and surroundings that makes Commencement, as its name implies, a time of beginning as well as of completion. It is the time when the younger see a new meaning in the truth they have learned because it has been lived and exemplified by those who have gone before; it is the time when the older can, by some subtle alchemy, transfer the philosophy of their experience to their successors, transmuting silver into gold by its touch. Thus the current of academic life returns yearly into itself, to go forth into ever widening cycles eternally. For truth is not only deathless but perennially young, and renews its youth with each return of the seasons, and is passed on purified and glorified by the hands of the great and the good who in their beautiful prime have held and cherished it. And of all the sober academic joys of Commencement time none is greater than thus to see how the past is ever linking its touch with the present and with the future and how "through times that change and forms that fade immortal youth returns."

#### THE PURE FOOD AND DRUG ACT.

By a recent judicial decision in one of our oldest states the pure food and drug act is likely to receive the *coup de grâce*. If this be true we shall the sooner have one better fit to survive.

Though the present law has fallen far short of the expectations of its framers and has failed to fulfill the purposes for which it was enacted, it has brought alleviation for a time and it has had an immense educative value.

The present law failed mainly because it was not sufficiently explicit and because there was inadequate provision for enforcement. Had it been stronger it would not have passed because there was little more than sentiment in its favor at that time. But what was vague sentiment then has become an imperative demand now. We must have a law which shall be of broader scope, which will stand the test of the courts and which can be rigorously enforced.

#### MEDICAL NOTES.

**BUBONIC PLAGUE IN PORTO RICO.** — Report from San Juan, P. R., on June 24 states that during the previous ten days 19 cases and 7 deaths from bubonic plague have occurred in the vicinity of that city. Seven suspected cases of the disease also are said to have been isolated under observation. The source of the infection has not been determined. At St. Thomas, D. W. I., rigorous quarantine has been instituted to prevent introduction of the plague into that island.

**LEPROSY IN THE PHILIPPINES.** — In the weekly report of the United States Public Health and Marine-Hospital Service for June 14 it is stated that since the establishment of the leper colony at Culion there have been collected in the Philippine Islands and transferred thither approximately 6,000 lepers, of whom about 3,000 came from the island of Cebu. Although Cebu contains only one tenth of the total population of the Philippines, it has thus furnished nearly one half of the cases of leprosy. There are now living in the community at Culion over 2,000 lepers. They have recently been organized into a republic, and have elected as their first president Michael Whalen, an American citizen and the only Keltic leper in the colony.

**ROCKY MOUNTAIN SPOTTED FEVER.** — From time to time we have published in the JOURNAL notes relative to the eradication of the spotted fever tick in the Rocky Mountains. The latest work on this subject is reported in a recently published reprint (No. 79) from the weekly report of the United States Public Health and Marine-Hospital Service for May 17. This work, done in co-operation with the Montana State Board of Health, by Dr. Thomas B. McClintic,

consisted partly in the study of methods of exterminating the tick, partly in laboratory experiments on the susceptibility of certain small wild mammals to the disease and on its treatment.

**DIPHTHERIA IN MANILA.** — The weekly report of the United States Public Health and Marine-Hospital Service for June 21 contains an article by Dr. Carroll Fox on "Diphtheria in Manila." It appears that the disease has increased in frequency and severity in the Philippine Islands since their American occupation. A number of carriers have been found and a series of new and more stringent regulations has been prepared governing the treatment of the infection.

**THREE LIVING BRITISH CENTENARIANS.** — Report from England on June 8 describes the recent birthday celebrations of three reputed British centenarians. Mrs. Shelton, of Stroud, near Rochester, is said to have been born on May 30, 1812, and Mr. J. Lock, of Plymouth, on May 26 of the same year. Mrs. Mary Hughes, of Nine Wells, near St. David's, in Wales, is alleged to be 105 years old and to be still in active, vigorous health. One of her brothers is said to have lived to the age of 103.

**BRITISH BUREAU OF TROPICAL DISEASES.** — It is announced by the British Colonial Office that from July 1, the Sleeping Sickness Bureau will be known as the Bureau of Tropical Diseases. Under its new title the bureau will henceforth deal with all exotic diseases occurring in tropic and subtropic climates.

"The director will have the help of an assistant-director and a number of experts, who will be responsible for the different subjects, and will furnish authoritative reviews and summaries of published papers, to appear in the "Bulletin." Thus, the results of the most recent researches on every tropical disease in every country, new methods of treatment, improved means of prevention, will quickly become available for the remote worker in the tropics. The tropical diseases of animals will be treated in a separate publication; to represent veterinary science Sir John Macfadyean and Mr. Stewart Stockman have joined the Committee, which includes among its members Sir P. Manson, Sir W. Leishman and Sir J. Rose."

**HONORARY DEGREES FOR PHYSICIANS.** — Among the recipients of honorary degrees at the recent Commencement of Harvard College were three physicians. Charles Francis Stokes, surgeon-

general of the United States Navy, received the degree of master of arts. In conferring the doctorate of science upon the two others, President Lowell characterized them as follows:

"Frederick Forchheimer, who in his practice, by his teaching and with his pen, has contributed to the marvelous advance of medicine in our day; a man in the judgment of his peers worthy to preside over the Association of American Physicians"; and

"Frederick Cheever Shattuck, a teacher of medicine, pungent and incisive; a practitioner with the insight that makes a physician great, and with a strong man's sympathy that has brought comfort and courage to countless sufferers."

At the annual Commencement, on June 21, of Lafayette College, Easton, Pa., the honorary doctorate of science was conferred on Harvey W. Wiley.

At the Commencement of Johns Hopkins University on June 11, the degree of doctor of laws was conferred on —

"William Crawford Gorgas, colonel in the Medical Corps of the United States Army, member of the Isthmian Canal Commission and chief sanitary officer of the Isthmian Canal Zone, formerly president of the American Medical Association, physician and sanitarian of the highest eminence, who by his conquests over pestilential diseases has rendered signal service to his profession, to his country and to the world."

**ITALIAN SANITATION IN TRIPOLI.** — Since the occupation of Tripoli by the Italians, in the course of their current war with Turkey, rapid progress is said to have been made by the invaders in the establishment of sanitation and the institution and introduction of other hygienic measures in their newly-acquired territory. A recent report by the Italian premier, Signor Giolitti, describes these procedures in part as follows:

"At this time the perplexing problem which confronts the Italians is that of the public health. The province has always been subject to epidemics, more especially cholera. Nothing was ever done by the Turkish authorities to meet these emergencies. The Italians have built a hospital for victims of contagious diseases, supervised and maintained by the municipality, and have equipped both with every available, modern medical appliance which was lacking in the Turkish government hospitals.

"The Italians also took vigorous measures against the epidemic and succeeded in a short time in wiping out the dreaded cholera. Ambulances were put into operation, chemical laboratories were established — all to combat the various contagious diseases.

"A reservoir with a capacity of 2,000,000 gallons of water was completed; a pumping station was erected and water mains were laid from the town to Bumeliana to supply water to Tripoli. In order to protect the health of the public an immense laundry is in the course of construction, and public baths are also being built.

"The work of the department of health of Tripoli is progressing as rapidly as the work of the administration, the departments employing many of the natives. The vagabonds of the city have been quartered very comfortably, and the congested districts have been somewhat relieved by moving the inhabitants from these districts to more spacious and healthful places outside the city.

"A street cleaning department has been organized and the city has been thoroughly illuminated by electricity, gas and acetylene lights. Meat, fish, vegetable and fruit markets will not be found around the city. A slaughter house has been erected and a model bakery, has also been opened by the administration to insure the manufacture of pure bread."

Such hygienic improvements, which are comparable to those accomplished by the United States in its insular possessions, in Panama, and in Cuba, seem to constitute one of the chief justifications of modern wars, and one of the most effective agents in the diffusion of civilization.

#### BOSTON AND NEW ENGLAND.

**ACUTE INFECTIOUS DISEASES IN BOSTON.** — For the week ending at noon, June 25, 1912, there were reported to the Board of Health of Boston the following cases of acute infectious diseases: Diphtheria 18, scarlatina 19, typhoid fever 13, measles 110, smallpox 0, tuberculosis 63.

The death-rate of the reported deaths for the week ending June 25, 1912, was 13.76.

**BOSTON MORTALITY STATISTICS.** — The total number of deaths reported to the Board of Health for the week ending Saturday noon, June 22, 1912, was 194, against 177 the corresponding week of last year, showing an increase of 17 deaths, and making the death-rate [for the week, 14.05. Of this number 101 were males and 93 were females; 189 were white and 5 colored; 111 were born in the United States, 82 in foreign countries and 1 unknown; 36 were of American parentage, 137 of foreign parentage and 21 unknown. The number of cases and deaths from infectious diseases reported this week is as follows: Diphtheria, 21 cases and 3 deaths; scarlatina, 16 cases and 1 death; typhoid fever, 14 cases and 6 death; measles, 100 cases and 3 deaths; tuberculosis, 58 cases and 36 deaths; smallpox, 0 cases and 0 deaths. The deaths from pneumonia were

12, whooping cough 0, heart disease 30, bronchitis 1. There were 14 deaths from violent causes. The number of children who died under one year was 30; the number under five years, 46. The number of persons who died over sixty years of age was 62. The deaths in hospitals and public institutions were 96.

**FEW INJURIES ON JUNE 17.** — At the recent celebration of Bunker Hill Day, June 17, in and about Boston, only 8 injuries from fireworks are reported to have occurred, and none of these was serious. Last year there were 25 cases of trauma from the same cause.

**MILK FINES IN BOSTON.** — Before the Boston municipal courts last week fines aggregating \$230 were imposed on 13 local milk-dealers for infraction of the statutes regarding the purity and sale of milk in this Commonwealth. Two other dealers were fined \$15 each for having in their possession with intent to sell, cream not up to the standard required by law.

**STORAGE OF LOBSTERS AND FISH.** — Considerable local opposition has developed to the enforcement of the ordinance of the Boston Board of Health prohibiting the storage of lobsters and fish in cans or other containers in the waters along the city's water-front. The risk of this procedure is in contamination by sewage.

**YALE MEDICAL SCHOOL COMMENCEMENT.** — At the recent annual Commencement exercises of the Yale Medical School, the degree of M.D. was conferred on 36 candidates. The principal address was delivered by Dr. Henry Herbert Donaldson, of the Wistar Institute of Anatomy and Biology, Philadelphia, on "Scientific Endowments with Relation to Medicine."

**REPORT OF ADAMS NERVINE ASYLUM.** — The recently published thirty-fifth annual report of the managers of the Adams Nervine Asylum records the work of this institution for the year ending April 30. During this period the number of patients under treatment was 229, of whom 59 were men and 170 women. Of these, 181 were new admissions. Four pupil nurses were graduated from the training school.

**BOSTON FLOATING HOSPITAL.** — The current season of the Boston Floating Hospital will begin on Saturday of this week, June 29. The equipment and administration of the boat will be essentially the same as last year.

"Last summer 438 different permanent patients received care for an average of 17 days of 24 hours each, or a total of 7,582 full days' service; 800 day patients made 5,125 day trips; mothers who accompanied their sick children and received instruction in nursing, helping in their care, made 5,110 day trips; 931 day trips were made by well children too small to be left at home by their mothers. This represents a service to the beneficiaries of this work of a total of 18,748 days for the summer of 1911."

The number of nurses employed on the boat will be 70. This year Miss Martha Stark will be engaged in shore work, following up in their homes all the patients treated in the hospital. The summer should prove a prosperous and active one for this valuable and unique medical charity.

**HARVARD MEDICAL ALUMNI ASSOCIATION.** — At the annual meeting of the Harvard Medical Alumni Association, held in Cambridge, on June 20, the following officers were elected for the ensuing year:

For president, Dr. Samuel B. Woodward, of Worcester; for vice-presidents, Dr. Reginald H. Fitz, Boston, Dr. Frederick C. Shattuck, Boston, Dr. Charles A. Wheeler, St. Paul, Dr. John Green, St. Louis, Dr. Joseph A. Capps, Chicago, Dr. Carroll E. Edson, Denver, Dr. Addison S. Thayer, Portland, Dr. Reuben Peterson, Ann Arbor, Dr. William B. Coley, New York, and Dr. Edmund H. Stevens, Cambridge; for treasurer, Dr. James B. Ayer, Jr., of Boston; for councilors, Dr. Malcolm Storer, Boston, Dr. David Cheever, Boston, and Dr. Francis P. Denny, Brookline.

#### NEW YORK.

**COMMENCEMENT OF FORDHAM COLLEGE OF MEDICINE.** — At the annual commencement of the College of Medicine, Fordham University, held on June 13, there were twenty-four graduates, and scholarship prizes of cases of instruments were awarded to two of the class.

**NEW MILK STATIONS.** — On June 15, Nathan Straus opened ten new milk stations, making eighteen in all, as an additional contribution to the campaign against infant mortality in which the Health Department and various private agencies are engaged. The eight other stations are maintained all the year round.

**HEBREW SHELTERING SOCIETY.** — The home of the Hebrew Sheltering Society is now being removed from the bank of the Hudson at 150th and 151st streets, where it has been maintained for nearly twenty-five years, to its

new quarters at Pleasantville, Westchester County. Here, on spacious grounds, it has established a model cottage colony, where the thousand children under the care of the society will be accommodated in sixteen cottages, built of concrete and each presided over by its own matron. In addition, there are a well-equipped infirmary and three schools, including separate technical schools for boys and girls, besides a residence for the superintendent, power house, laundry, etc. The whole property is valued at some \$900,000, and the sewerage system and sewage-disposal plant have been pronounced by experts as among the most complete in the state.

**INFANT MORTALITY.**—The *Monthly Bulletin* of the State Health Department for May is largely devoted to the subject of infant mortality and infant vitality. First there is an editorial of general character, in which it is stated that last year, while the general death-rate of New York State was only 15.5 per thousand of the population, among children under one year it was 114 per thousand of such children and in children under five years, 246. Appalling as these figures are, they do not tell the whole story. The diseases which proved fatal in so many instances, in thousands of others left a life-long mark upon the children who did not succumb but whose after-life will be more or less marred in consequence. Next follows an article by Prof. Walter F. Wilcox of Cornell University, consulting statistician to the department, in which he calls attention to the necessity, in studying the statistics of infant mortality, of having a record both of all deaths under one year of age and of all births occurring. Unfortunately, however, while probably nearly all the infant deaths in the State are reported, many births, as is well known, are never recorded. Still, there has of late years been considerable improvement in this respect, and he presents a table in which it is shown that, while in 1901 the estimated number of births escaping registration is put at 45,511, in 1911 the number of such is given at only 12,866. Comparing the number of deaths under one year to 1,000 births in the several sanitary districts of the State in 1911, it is found that the highest mortality was in the Hudson Valley District—138.8 (as against 110.5 in the state at large). This, however, is an improvement over the figure of 1910 (in which year the infant mortality throughout the state was much higher than in 1911), when it was 155.5. The lowest record was in the West Central District, 89.4. Curiously

enough, the rate in the pure air of the Adirondack and Northern District (115.0) was higher than that in the Maritime District, which includes the city of New York (111.1). In the statistics of infant mortality given by F. D. Beagle, director of the Division of Vital Statistics of the department, it is seen that since 1885 there has been a gradual reduction of the percentage of deaths under 5 years to the total deaths in the State from 37.9, in 1886, to 24.6, in 1911. In a table giving the number of deaths of children under 5 years of age per 100 deaths at all ages in the cities of the State in 1910 and 1911, it is found that in 1911 the lowest record was 11—in three places; Gloversville, Fulton County (population, 21,153), Olean, Cattaraugus County (population, 15,155), and Middletown, Orange County (population, 15,222). Much the highest rate, 80, was in Lackawanna, Erie County (population, 14,877), but it is stated, as accounting for the mortality in part, that this was increased by the deaths in institutions of certain infants not born there, but charged to the city. The next highest rate, 39, was at Port Chester, Westchester County (population, 13,207), and the third highest, 38, at Niagara Falls (population, 31,440). In New York the rate was 29 (Borough of Manhattan, 31; Queens, 27; Richmond, 25; Brooklyn and the Bronx, each 24). The other contributors to this symposium on infant mortality were the following: H. L. K. Shaw, Albany, consulting pediatrician to the department, "A Campaign to Save the Babies"; Dr. William B. May, director of the Division of Communicable Diseases, "Communicable Diseases as Affecting Infant Mortality"; Prof. H. N. Ogden, Cornell University, "The Relation of the General Sanitary Conditions of the City to Infant Mortality and Infant Vitality"; Theodore Horton, chief engineer of the department, "Rural Hygiene as Affecting Infant Mortality and Infant Vitality"; Dr. Charles G. Kerley, professor of diseases of children in the New York Polyclinic Medical School and Hospital, "Fundamental Principles in Infant Feeding"; Prof. V. A. Moore, New York State Veterinary College at Cornell University, "The Relation of Diseases of Cattle to Those of Children"; Herbert L. Wheeler, D.D.S., lecturer on dental hygiene to the department, "The Relation of Difficult Dentition to Infant Mortality."

The death-rate for the week ending June 8, 1912, was .68 higher than the corresponding week of 1911, but the rate for the first twenty-three weeks of 1912, 15.43, remains over one point lower than during the same period of 1911, when it was 16.62.



**WATER SUPPLY OF NEWARK, N. J.**—The water supply of Newark, N. J., having been found to be contaminated with the colon bacillus, Health Officer Chandler recently ordered that the supply from the Cedar Grove reservoir should be cut off and the reservoir drained of its 679,700,000 gallons of water, in order to have the basin thoroughly cleansed.

## Current Literature.

### MEDICAL RECORD.

JUNE 15, 1912.

1. FULLER, E. *The Management of Gonorrheal Rheumatism.*
2. HILLE, H. *Facts of Modern Science and Their Value in the Prevention and Cure of Disease.*
3. \*KAPLAN, D. M. *The Practical Value of the Wassermann Reaction.*
4. REYNOLDS, W. S. *Mercury in Syphilis.*
5. KNAPP, M. I. *Myositis Traumatica.*
6. HICKS, J. R. *What Should the General Practitioner Know about Disturbances of Motility of the Eye?*
7. GORDON, M. B. *Exophthalmic Goitre, with Report of a Case.*

3. From his personal clinical experience, Kaplan reaches the following conclusions with regard to the Wassermann reaction:

(1) The Wassermann reaction from a theoretical standpoint has very little in common with the side-chain theory of Ehrlich.

(2) Technically, only unquestionably positive results are to be taken into consideration by the laboratory and by the clinician.

(3) Practically, one should not consider a Wassermann reaction without obtaining a good history and a complete physical examination. [R. M. G.]

### NEW YORK MEDICAL JOURNAL.

JUNE 15, 1912.

1. PUTNAM, J. J. *Comments on Sex Issues from the Freudian Standpoint.*
2. BARYS, L. B. *Some Phases of Prostatic Disease.*
3. \*STARKEY, F. R. *The Combined Use of Thyroparathyroid, Pituitary, Ovarian and Testicular Extracts.*
4. MCGLINN, J. A. *Two Cases of Large Ovarian Cystoma.*
5. HOWARD, T. *Some of the Newer Uses of Calcium.*
6. BRAY, A. *The Conservation of Vision.*
7. SCOTT, J. C. *The Effect of Infundibulin on Mammary Secretion.*
8. THELBERG, E. B. *The Instruction of College Students in Regard to Reproduction and Maternity.*

3. Starkey presents a study of polyglandular therapy, with report of cases. [R. M. G.]

### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

JUNE 15, 1912.

1. SHAMBAUGH, G. E. *The Specialist in Medicine.*
2. CANNON, W. B. *Animal Experimentation and Its Benefits to Mankind.*
3. GLOVER, M. W. *Hookworm among Oriental Immigrants.*
4. ROUS, P., MURPHY, J. B., AND TYTLER, W. H. *The Relation between a Chicken Sarcoma's Behavior and the Growth's Filterable Cause.*
5. LYALL, H. W. *Blood Cultures in Pneumonia.*
6. CRISP, W. H. *An Essay of Health and Long Life, Published A.D. 1725.*
7. REESMAN, D. *A Peculiar State of Asthenia of Short Duration, Ending in Recovery.*

8. CAPPS, J. A., AND MILLER, J. L. *The Chicago Epidemic of Streptococcus Sore Throat and Its Relation to the Milk Supply.*
9. DAVIS, D. J. *Bacteriologic Study of Streptococci in Milk in Relation to Epidemic Sore Throat.*
10. WHOLEY, C. C. *Morphinism in Some of its Less Commonly Noted Aspects.*
11. EHRRICH, W. S. *Simple Device for Holding Retention Catheter.*
12. SHARPE, H. A. *Acranial Monster with Encephalocele and Polyhydramnios.*

### BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

JUNE, 1912.

1. STONE, H. B., BERNHEIM, B. M., AND WHIPPLE, G. H. *Intestinal Obstruction: A Study of the Toxic Factors.*
2. WINTERNITZ, M. C. *Primary Carcinoma of the Liver.*
3. GAY, F. P. *A Method of Correlated Teaching of Pathology and Bacteriology in the Second Year of Medical Instruction.*
4. GARRISON, F. H. *Richard Bright's Travels in Lower Hungary: A Physician's Holiday.*
5. LANDIS, H. R. M. *Austin Flint: His Contributions to the Art of Physical Diagnosis and the Study of Tuberculosis.*
6. \*CUMSTON, C. G. *Cyrano de Bergerac's Opinion of the Medical Profession.*

6. Cumston presents an exceedingly interesting original letter by Cyrano de Bergerac relative to doctors, especially the members of the Faculty of Medicine of Paris. [R. M. G.]

### THE JOURNAL OF EXPERIMENTAL MEDICINE.

JUNE, 1912.

1. STEWART, G. N. *The Alleged Existence of Adrenalin (Epinephrin) in Pathologic Sera.*
2. BROWN, W. M. *Malarial Pigment (Hematin) as a Factor in the Production of the Malarial Paroxysm.*
3. BRONFENBRENNER, J., AND NOGUCHI, H. *A Biochemical Study of the Phenomena Known as Complement-Splitting. First Paper: Splitting of the Complement Associated with Globulin Precipitation.*
4. BRONFENBRENNER, J., AND NOGUCHI, H. *A Biochemical Study of the Phenomena Known as Complement-Splitting. Second Paper: Splitting of the Complement without a Visible Alteration of the Proteid Constituents.*
5. JOSEPH, D. R. *A Quantitative Study of the Effects of Adrenalin on the Pupils of Rabbits after Removal of a Superior Cervical Ganglion.*

### THE LANCET.

JUNE 8, 1912.

1. \*BALL, W. G. *Hunterian Lecture on Acute Infective Processes Due to the Streptococcus.*
2. BROCKBANK, E. M. *Clinical Notes on Blood Plates.*
3. COOMBS, C. F. *Is There a Directly Rheumatic Form of Ulcerative Endocarditis?*
4. MOON, R. O. *A Case of Congenital Stenosis of the Aorta.*
5. JONES, W. F. *Two Cases of Splenectomy for Rupture of the Spleen: Recovery.*
6. GUNSON, E. B. *A Case of Hemopericardium of Traumatic Origin: Operation.*
7. BERNSTEIN, M. J. *A Dermatitis Caused by "Dinitrochlor Benzole."*
8. \*ROUGHTON, E. W. *Bilateral Operation for Inguinal Hernia.*
9. EVANS, N. *Note of a Case of True Cauliflower Excrescence.*
10. WEBBER, H. W. *Notes of Two Cases of Acute Pancreatitis.*

1. Ball writes with particular reference to the value of vaccines and sera in the treatment of acute streptococcus infections.

8. Roughton emphasizes the advantage of simultaneous bilateral operation for the radical cure of inguinal hernia in young subjects. [R. M. G.]

## THE BRITISH MEDICAL JOURNAL.

JUNE 8, 1912.

1. HUTCHISON, R. *A Lecture on Chronic Diarrhea in the Adult.*
2. GILFORD, H. *The Relations of Biology to Pathology.*
3. EVANS, J. H. *Ulcerous Lesions of the Tongue.*
4. McDONAGH, J. E. R. *The Action of Salvarsan and Neosalvarsan on the Wassermann Reaction.*
5. HOOTON, W. H. *The X-ray Treatment of Graves' Disease.*
6. \*OLLERENSHAW, R. *On Dermoids of the Tongue.*
7. PENDRED, B. F. *A Case of Viper Bite in Epping Forest.*
8. BALME, H. *An Enormous Parotid Tumor in a Chinese Woman.*
9. WASHBOURN, W. *Perforated Enteric Ulcer: Operation, Recovery.*

6. Ollerenshaw reports a large sublingual dermoid cyst.  
[R. M. G.]

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT. No. 19.

MAY 7, 1912.

1. \*TRAUBE, J. *Immunity and Anaphylaxis.*
2. \*DREYFUS, G. L. *Late Neuro-recurrence of Syphilis after Salvarsan.*
3. \*KRENFUCHS, S. *A New Method of Measuring the Heart.*
4. FAGINOLI, A. *Therapeutic Pneumothorax.*
5. BANERIESEN, A. *Rupture of the Tentorium in the Newborn.*
6. MELCHIOR, E. *Diagnosis of Joint Diseases by Measuring the Local Temperature of the Skin.*
7. MEIROWSKY, E. *A Biologic Sign of the Action of Extracts of Skin.*
8. HEUSNER, L. *Surgical Treatment of Chronic Joint Rheumatism.*
9. v. HOLST, M. *Pfannenstiel's Fascia Splitting Method.*
10. WEILE, L. *"Ergotin-Koffein" for Myocarditis, Arteriosclerosis and Cardiac Neurosis.*
11. ROSENBERG, E. *Fango from Germany.*
12. EHRLICH, A. *Scalpel with a Double-edged Point.*
13. DANIELSOHN, P. *Useful Substitute for Aspirin.*
14. SOMMERFELD, P. *Staining Diphtheria Bacilli.*
15. HANSEN. *Origin of Abscesses.*
16. PFAUNDLER, M. *A Last Time the "Starving Children."*

1. The writer holds that the phenomena of immunity and of anaphylaxis are more readily explainable as physical changes than as chemical reactions. In support of this view he cites experimental work of his own and refers particularly to Dörr, of Vienna, whose opinions are similar.

2. Dreyfus reviews the work of Ravaut, which seems to show that salvarsan, owing to the frequency of neuro-recurrence, is dangerous in the secondary stage of syphilis. The writer disagrees with Ravaut and emphasizes the importance of giving comparatively large doses and following them up with mercury and iodide to complete the destruction of the spirochetes.

3. The method of measuring the heart here described is based on relative proportion to the width of the chest. It was found that the relative width of the heart shadow in x-ray plates varies very little in normal individuals. Taking the width of the chest as the unit and dividing the line at the level of the cardiophrenic angle into twelfths, the distance from the center of the chest wall on the right to the right border is approximately  $\frac{1}{12}$ , the width of the heart  $\frac{1}{12}$ , and the distance from apex to chest wall on the left  $\frac{1}{12}$ . This proportion will be the same whatever the distance from the tube to the patient. By plastering leaden wires vertically in the mid-line front and back and lining them up with the fluoroscope before taking the plate accuracy of position was secured.

[G. C. S.]

## WIENER KLINISCHE WOCHENSCHRIFT. No. 23.

JUNE 6, 1912.

1. KRAUS, R. *Carcinoma Cells and Carcinoma Reactions.*
2. MÜLLER, R. *The Influence of Salvarsan Treatment on the Wassermann Reaction.*

3. KLECZKOWSKI, T. *Eosinophilia in Glaucoma.*
4. BAUER, T. *The Duodenal Diverticulum.*
5. HOKE, E. *Case of Angina Abdominalis.*
6. KÄHLER, O. *Laryngology and Rhinology in their Relations to General Diagnosis.*
7. EBSTEIN, E. *The Antecedent History of Diabetic Coma.*

## PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE.

MAY, 1912.

1. \*LOWE, T. P., et al. *Radium Emanation in Mineral Waters.*
2. ADDISON, O. L. (a) *Bony Growth on the Skull.* (b) *Exostosis of the Inner End of the Clavicle.* (c) *Pathologic Specimen of Tumor of the Back.*
3. ROLLESTON, J. D. *Destruction of the Uvula in Vincent's Angina.*
4. POYNTON, F. J. (a) *Morbus Cordis.* (b) *Rachitic Dwarf.*
5. FORSYTH, D. *Gumma of the Lung.*
6. CAUTLEY, E. *Mucous Gastritis in Infancy.*
7. DORE, S. E. *Multiple Benign Cystic Epithelioma.*
8. FOX, W. *Case for Diagnosis.*
9. DORE, S. E. *Extensive Hairy Pigmented Moles.*
10. MACLEOD, J. M. H. *Lupus Erythematosus.*
11. MEACHEN, G. N. *Bromide Eruption.*
12. MORRIS, M. *Fibromata in a Girl.*
13. SCHOLEFIELD, R. E., AND WEBER, F. P. *Sclerodactylia with Subcutaneous Calcification.*
14. SEQUEIRA, J. H. *Case of Infective Angioma.*
15. WEBER, F. P. *Trophoneurotic Separation of Nails, Followed by Alopecia Areata.*
16. WHITFIELD, A. *Case for Diagnosis.*
17. MORTON, R. *The Treatment of Rodent Ulcer.*
18. LYSTER, C. R. C., AND RUSS, S. *The Clinical Use of the Active Deposit of Radium.*
19. MORTON, M. *Demonstration of a New Compressor.*
20. ORTON, G. H. *Skiagram of a Case of Separation of the Lower Epiphysis of the Femur.*
21. RUNDLE, C. *The Bed Isolation of Cases of Infectious Disease.*
22. WATSON-WILLIAMS, P. (a) *Demonstration of Osteoplastic Radical Frontal Sinus Operation.* (b) *New Electric Light Gag for Use in Operating on the Facial Regions.*
23. DAVIS, H. J. (a) *Large Cyst in the Right Tonsil.* (b) *Foreign Body in the Left Bronchus with Complete Transposition of Viscera.*
24. PETERS, E. A. (a) *Tonsils Enucleated by a Mackenzie Guillotine.* (b) *Asthma with Swollen Middle Turbinates.* (c) *Tumor of the Left Antrum.*
25. TOD, H. (a) *Enophthalmos; Total Ophthalmoplegia; Partial Blindness.* (b) *Bleeding Tumor of the Septum.*
26. MOORE, I. *Instruments for Use with Brüning's Tubes.*
27. STUART-LOW, W. (a) *Lupus of the Nose Treated by Tuberculin.* (b) *Large Cyst on the Soft Palate.* (c) *Large Aberrant Thyroid.*
28. HARUM, D. (a) *Total Laryngectomy by a Suicide.* (b) *Pneumococcal Laryngitis Followed by Suppurative Arthritis, Endocarditis, Septicemia and Death.*
29. MCKENZIE, D. (a) *Lupus of Nasal Septum.* (b) *Tertiary Specific Ulceration of the Pharynx Undergoing Malignant Transformation.*
30. KELSON, W. H. (a) *Subsequent History of a Case of Swelling in the Right Tonsillar Region.* (b) *Microscopic Section of Growth Removed from Trachea.*
31. KELLY, A. B. (a) *Traction Diverticulum of Esophagus and Atrophy of Left Vocal Cord Due to Infiltrated Gland Beneath Arch of Aorta.* (b) *Esophagus with Perforations Due to Ulceration Produced by Foreign Bodies.* (c) *Esophagus with Cicatricial Stenosis Caused by Carbolic Acid.* (d) *Cancer of Esophagus Projecting into Trachea.*
32. DAVIS, E. D. *Laryngeal Crises with Abductor Paralysis.*
33. PATTERSON, N. *Epithelioma of Pharynx.*
34. HORNE, W. J. *Growth in Post-Nasal Region.*
35. PEGLER, L. H. *Stenosis of Larynx.*
36. \*WARD, G. R. *Nodular Leukemia.*
37. EDEN, T. W. *Uterus and Appendages from a Case of Primary Amenorrhea.*

38. MAXWELL, R. D. *Fibroid Polyp Showing Malignant Glandular Invasion.*
39. GLENDINNING, B. *Fibro-Adenoma of the Ovarian Fimbria.*
40. BARRIS, J. *Retroversion of the Gravid Uterus, Complicated by Overdistention of the Bladder and Hematuria.*
41. WILLIAMSON, H. *Death of the Child Due to Rupture of Umbilical Vessels During Labor.*
42. ECCLES, W. McA., AND HOPEWELL-SMITH, A. *Dermoid Teeth or Teeth Developed in Teratomata.*
43. BETTS, E. G. *The Complete Eruption into Place of a Devitalized Tooth.*
44. RUSS, C. *An Improved Method for Opsonic Index Estimations.*
45. \*CHAMBERS, H., AND RUSS, S. *The Bactericidal Action of Radium Emanation.*
46. TAYLOR, F. *The Treatment of Opium Poisoning by the Faradic Current.*

1. This is an interesting initial symposium on a new aspect of radiotherapy.

36. Ward reports a case of nodal leukemia, and collects 173 others from the literature.

45. Chambers and Russ present an admirable piece of bacteriologic study on the bactericidal properties of radium emanation. [R. M. G.]

### Miscellany.

#### PROJECT FOR DEALING WITH TUBERCULOSIS IN GREAT BRITAIN AND IRELAND.

IN February, 1912, in connection with the agitation over the National Insurance Act in England, Mr. Lloyd-George appointed a departmental committee, of which Mr. Waldorf Astor was chairman, "to report at an early date upon the considerations of general policy in respect of the problem of tuberculosis in the United Kingdom, in its preventive, curative and other aspects, which should guide the government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoria or other institutions or otherwise."

This committee has recently issued a preliminary report, which is described in a recent issue of the London *Telegraph* in part as follows:

"The scheme recommended by the committee is intended to complete existing public health administration in respect of tuberculosis, and is based on the establishment and equipment of two units related to the general work carried on by medical officers of health working in harmony with the general practitioner. These are:

"1. The tuberculosis dispensary, or an equivalent staff.

"2. The sanatoria, hospitals and other institutions, in which institutional treatment is given.

"In the committee's opinion, the tuberculosis dispensary should be the common center for the diagnosis and for the organization of treatment of tuberculosis in each area, at which the various bodies and persons connected with the campaign would be brought together. The aim should be that no single case of tuberculosis should remain uncared for in the community, and that whatever services the scheme provides should be available

for all cases of the disease. The tuberculosis dispensary should be co-ordinated with the sanatoria, hospitals, farm colonies and open-air schools, comprising the second unit, for which it would act as a clearing house.

"In a general way the function of the tuberculosis dispensary would be to serve as (1) receiving house and center of diagnosis, (2) clearing house and center for observation, (3) center for curative treatment, (4) center for the examination of 'contacts,' (5) center for 'after-care,' (6) information bureau and educational center. Without committing themselves too definitely to a figure, the committee think that one dispensary will be required in the immediate future for every 150,000 to 200,000 of the population in an urban area. In rural districts where the population is scattered it could usually only serve a smaller number. It is calculated that from 225 to 300 dispensaries will be required for the United Kingdom. The cost of adapting and equipping an existing building for the purpose should not exceed £250.

"With regard to the second unit of the scheme, it is pointed out that hospital accommodation is required for a large number of persons: (a) For treatment and education; (b) in emergencies; (c) in acute diseases for the purposes of observation until the character of treatment required can be ascertained; and (d) for patients with advanced disease not able to be nursed at home, under conditions that will ensure the patient's comfort and the safety of those about them."

"It is strongly recommended that an individual sanatorium should contain not less than one hundred beds. It is estimated that the gross capital outlay should not exceed £150 per bed, and that the cost of maintenance per bed would be from 25s. to 30s. a week. While experience alone can determine the actual requirements, the committee thinks it advisable to provide in the immediate future one bed for every five thousand of the population of the United Kingdom. On this basis some nine thousand beds will be required at the outset.

"Special emphasis is laid on the necessity of having suitably qualified and experienced medical men for the senior appointments in dispensaries and sanatoria. The committee is of opinion that preference should be given to registered medical practitioners of suitable qualifications and experience, and not less than twenty-five years of age, who have held house appointments for at least six months in a general hospital, in addition to a similar period of attendance at a special institution for the treatment of tuberculosis. They should also be competent to supervise such laboratory work as may be necessary.

"It is strongly urged that every effort should be made to enlist the co-operation of the medical profession generally throughout the country, particularly in relation to the early detection of the disease and its domiciliary and dispensary treatment.

"Great importance is attached in the report to the proper treatment of children, since 'the more

the resistant power of children is increased the lighter will be the burden of tuberculosis in the next generation.' In its final report the committee purposes to recommend that a definite sum should be allowed for the provision of institutions necessary for children.

"It is recommended that schemes dealing with the whole population should be drawn up by councils of counties and county boroughs, or by combinations of these bodies, at the earliest possible date, with due regard to the incidence of the disease and the special conditions and circumstances of the area; and that, in framing complete schemes, regard should be had to all the existing available authorities, organizations, and institutions, with a view to avoiding waste by overlapping and to obtaining their co-operation and inclusion within the schemes proposed. As regards London, it seems desirable to the committee that it should be considered whether some of the sanatoria and hospitals required should not be provided by the Metropolitan Asylums Board, and whether dispensaries should not be provided by the Metropolitan Borough Councils.

"While the local authorities should be legally responsible for the establishment and maintenance of schemes, it is suggested that they should appoint, in conjunction with the local insurance committee, a consultative committee, to advise on matters pertaining to the starting and internal management of dispensaries.

"Finally, it is recommended that the treasury grant towards capital expenditure should be up to four fifths of the sum required for dispensaries where the cost does not exceed £1 per seven hundred and fifty population, and up to three fifths for sanatoria where the total sum does not exceed £90 per head. The payment by the insurance committees for maintenance should take the form of a lump sum on an agreement for a term of years."

This scheme, though open to certain obvious objections, seems well conceived and devised. It remains to be seen how thoroughly and efficiently it will be worked out as part of the far-reaching policy of the present British government. Its success or failure will be an important object of interest for observation by those concerned in dealing with similar problems in other countries.

#### APPOINTMENTS.

**APPOINTMENTS AT THE ROCKEFELLER INSTITUTE.**—The Board of Scientific Directors of the Rockefeller Institute for Medical Research announces the following appointments and promotions:

Dr. Alexis Carrel (Experimental Surgery) has been promoted to the rank of Member of the Institute.

The following Associates have been made Associate Members for a term of three years: Peyton Rous (Pathology and Bacteriology); Donald Dexter Van Slyke (Chemistry); Walter Abraham Jacobs (Chemistry); and Frank Watts Bancroft (Experimental Biology).

The following Assistants have been made Associates: Paul Franklin Clark (Pathology and Bacteriology); Richard Vanderhorst Lamar (Pathology and Bacteriology); and Hardolph Wasteneys (Experimental Biology).

The following new appointments are announced: Harold Lindsay Amoss (Assistant in Pathology); Clarence J. West (Assistant in Chemistry); Wolfgang Ewald (Fellow in Experimental Biology); Homer Fordyce Swift, (Chief Resident

Physician); Francis Richard Fraser (Assistant Resident Physician and Assistant in Medicine); Frederic Moir Hanes (Assistant Resident Physician and Assistant in Medicine).

JEROME D. GREENE,  
General Manager.

DR. ELLIOTT PROCTOR JOSLIN, of Boston, has recently been appointed assistant professor of the theory and practice of physic in the Harvard Medical School, from Sept. 1, 1912.

DR. EDWARD WYLLYS TAYLOR, of Boston, has recently been appointed assistant professor of neurology in the Harvard Medical School from Sept. 1, 1912.

DR. JACOB PARSONS SCHAEFFER, of New Haven, Conn., has recently been appointed professor of anatomy at the Yale Medical School.

At a meeting of the Board of Managers of the Children's Hospital, Boston, held on June 11, 1912, DR. ROBERT W. LOVETT, of Boston, was appointed surgeon, in place of Dr. EDWARD H. BRADFORD, resigned.

#### A CORRECTION.

In last week's issue of the JOURNAL we incorrectly announced that DR. LORING B. PACKARD, of Boston, had been appointed at the Brockton (Mass.) Hospital as surgeon-in-chief. His appointment is to the position of superintendent.

#### RECENT DEATHS.

DR. EBERHARD WILLIAM DITTRICH, professor of dermatology in the New York Post-Graduate Medical School, died on June 16, at the age of fifty-one years. He was born in Bonn, Germany, and was graduated from Bellevue Hospital Medical College in 1894. In addition to being chief of the clinic for diseases of the skin at the Post-Graduate Hospital, he was attending dermatologist to the Northwestern Dispensary and to the German Odd Fellows' Home.

DR. EDMUND CARLETON, who died last week in New York City, was born at Littleton, N. H., in 1839. After serving as a volunteer in the Union Army throughout the Civil War, he entered the practice of the law, but subsequently studied medicine, and practiced that profession for many years in New York. He was professor of surgery at the New York Medical College for Women, and consulting surgeon of the Flower Hospital. He is survived by his widow, by one daughter and by one son.

#### RECORD OF MORTALITY

FOR THE WEEK ENDING SATURDAY, JUNE 15, 1912.

CITIES.	Reported deaths in each.	Deaths under five years.	CITIES.	Reported deaths in each.	Deaths under five years.
New York.....	—	—	Pittsfield.....	11	3
Chicago.....	588	136	Waltham.....	7	—
Philadelphia.....	—	—	Brookline.....	1	—
St. Louis.....	—	—	Chicopee.....	4	4
Baltimore.....	—	—	Gloucester.....	5	—
Cleveland.....	—	—	Medford.....	6	—
Buffalo.....	—	—	North Adams.....	4	2
Pittsburg.....	—	—	Northampton.....	2	0
Cincinnati.....	—	—	Beverly.....	6	—
Milwaukee.....	—	—	Revere.....	4	1
Washington.....	—	—	Leominster.....	10	1
Providence.....	—	—	Attleboro.....	3	1
Boston.....	184	42	Westfield.....	10	2
Worcester.....	40	9	Peabody.....	—	—
Fall River.....	29	12	Melrose.....	4	—
Lowell.....	33	11	Woburn.....	4	2
Cambridge.....	30	13	Newburyport.....	7	—
New Bedford.....	26	9	Gardner.....	1	1
Lynn.....	17	7	Marlboro.....	1	0
Springfield.....	19	7	Clinton.....	5	1
Lawrence.....	32	9	Milford.....	—	—
Somerville.....	12	2	Adams.....	5	1
Holyoke.....	—	—	Frammingham.....	5	0
Brockton.....	9	1	Weymouth.....	—	—
Malden.....	7	—	Watertown.....	3	1
Haverhill.....	14	3	Southbridge.....	2	1
Salem.....	9	1	Plymouth.....	—	—
Newton.....	3	—	Webster.....	3	1
Fitchburg.....	2	—	Methuen.....	3	1
Taunton.....	12	5	Wakefield.....	2	1
Everett.....	8	1	Arlington.....	—	—
Quincy.....	—	—	Greenfield.....	3	1
Chelsea.....	10	1	Winthrop.....	2	1

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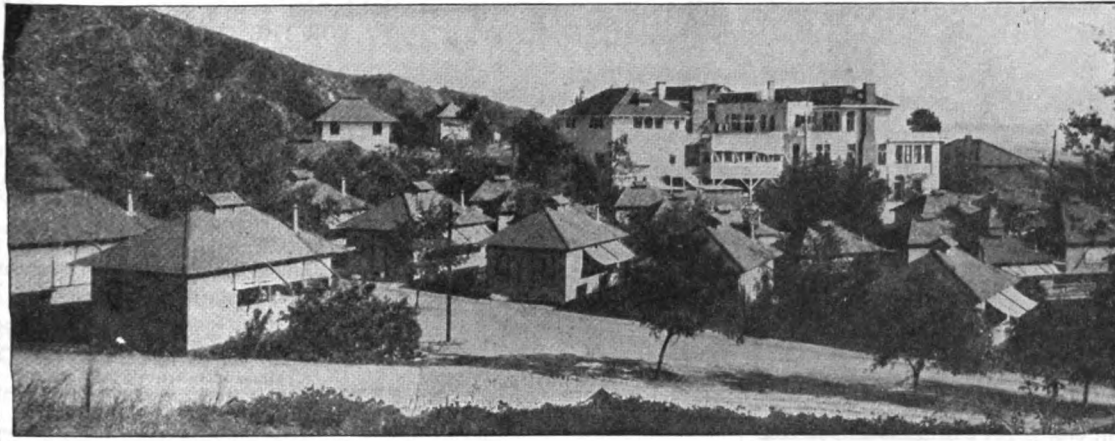
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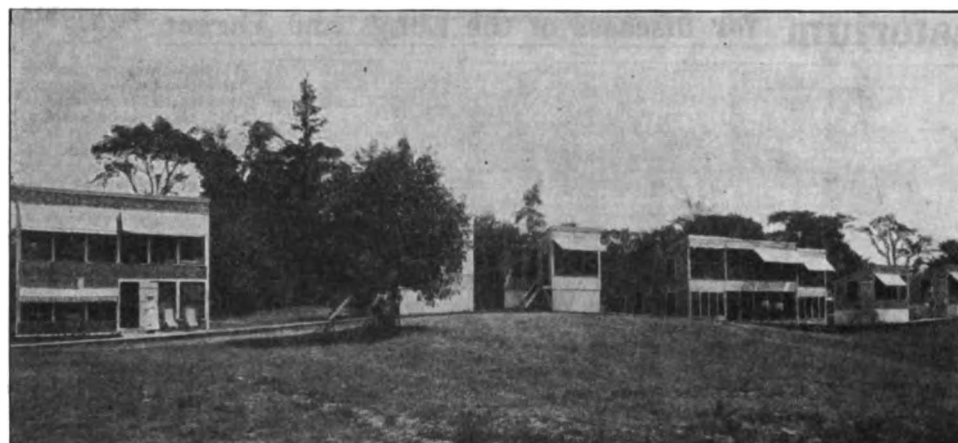
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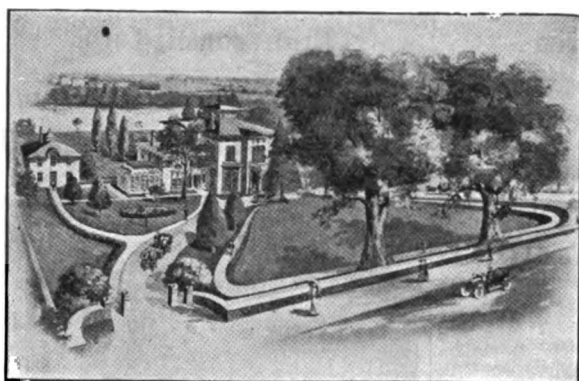
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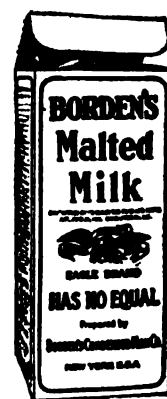
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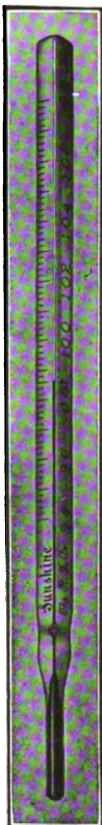
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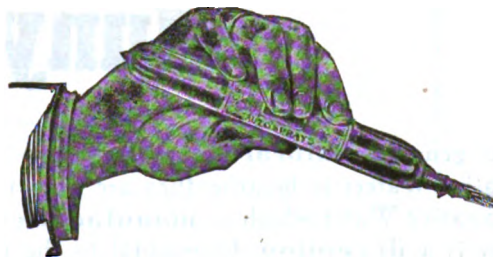
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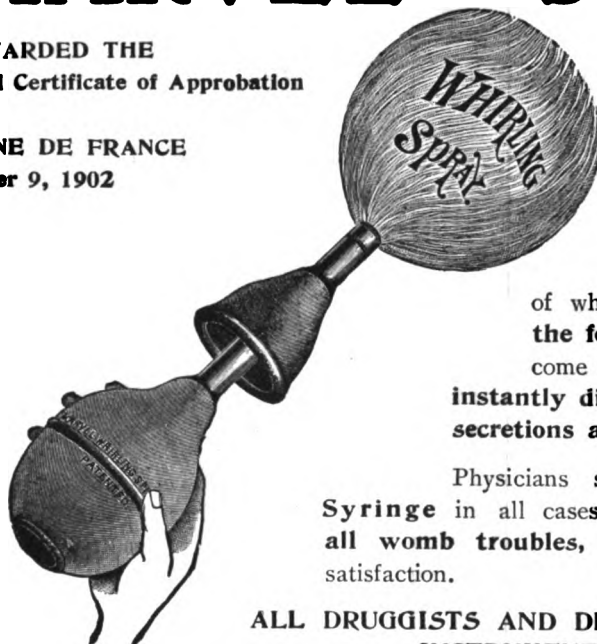
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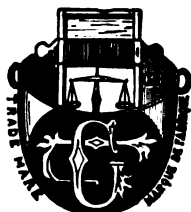
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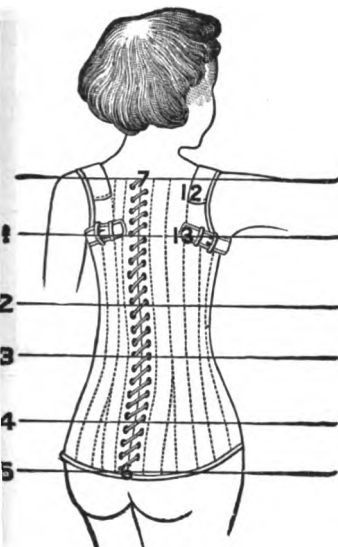
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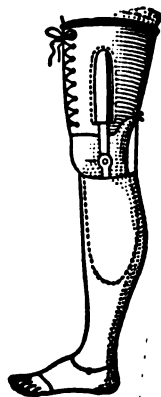
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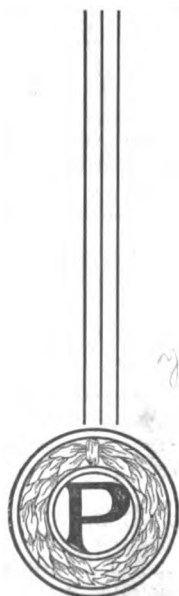
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